

Sub Order Rhegnopteri

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Maxillary excluded from border of upper jaw. Dentition feeble. Air bladder very large, when present. Body covered with ctenoid scales. Two distinct dorsal fins, anterior of few spines. Pectorals low down, with ^{distinct} lower ^{section of detached} rays. ~~detached~~.

Pelvic bones suspended from postclavicles. Ventral more or less approximated to pectoral.

One family.

very high in
some (e.g. paradisus)
gsm

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Family Polynemidae

Body oblong or moderately elongate, compressed. Caudal peduncle oblong, robust, compressed. Head rather large to small, compressed. Snout more or less conic, projects over mouth. Eye rather large, advanced, lateral. Adipose eyelid, usually well developed. Mouth large, inferior, with oblique lateral cleft. Premaxillaries protractile. Maxillary without supplemental bone, extends much beyond eye. Villiform teeth in jaws, on palatines, sometimes on vomer, ^{and pterygoids.} Nostrils double. Suborbitals very low. Gill membranes separate, free

not in some form

from isthmus. Gills 4, slit
behind fourth. Pseudobranchiae
concealed. Branchiostegals 7.
Vertebral 24 or 25, of which
14 or 15 caudal. Air bladder
various, sometimes absent.

Not in some

Stomach coecal, with few^{or many}
pyloric appendages. Scales
rather large to small, loose,
ctenoid, regularly imbricated.
Lateral line complete, extends
on tail, usually forked, with
branch on each lobe. Head
entirely scaly. Second dorsal,
anal and caudal covered
with small scales. Two separate
dorsals, somewhat distant,
~~spines~~ 8 in first fin, rather
high though feeble, first and
last very short and third

fewer in some ^{forms}

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longest. Second dorsal equally high, longer base, with spine and 9 to 13 rays. Anal like second dorsal, spines 3 and rays (13) to 30. Pectoral moderate, low, in 2 parts, lower and anterior division of several thread-like rays, free from each other, sometimes greatly extended, function as organs of touch. Ventral abdominal, not free from pectoral, of spine and 5 rays. Vent nearly median.

Mostly valued food fishes of the sandy shores of tropical countries, some entering rivers. Others are valued for the isinglass yielded by the air-bladder. The free pectoral

filaments, greatly variable, are tactile organs and can be moved independently of the fins. Gill has pointed out:

"The nearest allies of this family appear to be the Sciaenoids. This affinity is indicated by the presence in both of the muciferous excavations of the skull, the extent of the squamation and the obliquity of the rows of scales, the weakness of the dorsal and anal spines, &c. The number of the vertebrae and the character of the intestinal canal are also nearly similar to those of the Sciaenoids ***** On the other hand, they resemble the Mugilids

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by the interval between the
dorsal fins, and even in
some degrees by the form,
squamation and position of
the ventral fin."

Analysis of Genera

a.¹ Preopercle serrated; A. 11 to 17,
long as second dorsal.

b.¹ Vomer toothed.

Not so in all spp. of
Polydactylus
genus

c.¹ Scales moderate; free pectoral
rays 3 to 9.

d.¹ Outer border of jaws ^{with teeth} ~~rough~~; pectoral
rays simple; no air bladder. Eleutheronema.

d.² Outer border of jaws smooth; pectoral
rays divided; air bladder present. Polydactylus.

c.² Scales minute; free pectoral rays 14.

Polistionemus.

b.² Vomer toothless.

Galeoides.

a.² Preopercle entire; A. 30, much
longer than second dorsal. Polynemus.

not so in melanochir garra

Though dusky largely in coloration and with striking dark longitudinal bands this species readily fades in alcohol. Our series from Cammahala Bay is such an example. These specimens are not only without the dark bands but are largely more slender. They have, however, the very diagnostic longitudinal silvery pigmented area on the chest, belly and under surface of the tail, besides very obscure traces of the dark bands. It is very close to Apogon argyrogaster Weber, but that

Notes Leyden Mus., vol. 31, 1909, p. 157,
near west coast of New Guinea; Siboga
Exped., vol. ⁵⁷ 65, Fische, 1913, p. 33, pl.
10, fig. 7 (types).

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Genus Eleutheronema Bleeker

Eleutheronema Bleeker, Verslag.
Kon. Akad. Wet. Amsterdam, Vol.
14, p. 124, 1862. (Type Polynemus
tetradactylus Shaw, designated
by Jordan, Genera of Fishes,
Pt. 3, p. 310, 1919.)

Body somewhat elongate. Snout
prominent. Eyes covered with
adipose membranes. Mouth
very large. Maxillary well
expanded terminally, sealed.
Lips absent, except lower at
mouth corner. Teeth small,
extend to outside of jaws;
also on vomer, palatines and
tongue. Preopercle serrated

behind. Gill opening large.

Gill membranes free from isthmus and from each other.

Scales small. Soft dorsal and anal subequal, opposite, rays 15 to 17. Pectoral with 3 or 4 free filaments.

Indian Ocean and Western Pacific.

Analysis of Species

a.¹ Four free pectoral filaments.
tetradactylum.

a.² Three free pectoral filaments.
tridactylum.

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Eleutheronema tetradactylus (Shaw)

Polynemus tetradactylus Shaw,
General Zool., vol. 5, pt. 1, p. 155,
1804 (on Waga jellee Russell,
Fishes of Coromandel, vol. 2, p. 67,
pl. 183, 1803, type locality,
Vizagapatam). — Hist. nat. Poiss.,
vol. 3, p. 375, 1829 (Pondicherry);
vol. 7, p. 245, 1831 (Batavia); ~~1831~~
Richardson, Ichth. China Japan,
p. 218, 1846 (Borneo, China,
Malay Peninsula, Calcutta, Ceylon,
India). — McClelland, Journ. Asiatic
~~Res.~~ Soc. Bengal, vol. 8, p. .
Règne Animal, Cuv. Ed. Ill., pl. 19, fig.
1, 1839. — Swainson, Nat. Hist.
Animals, vol. 2, p. 234 (on Russell);
(). — Bleeker, Verh.
Batavia. Genoot. (Perc.), vol. 22, p.

side of snout crosses eye and follows median body axis to caudal base. Third dark band from infraorbital to pectoral base and then along lower surface of caudal peduncle narrowly. Below lowest dark lateral band scales all with very fine, vertical dusky lines, though not extending on the ventral ridge. Iris pinkish. Fins all pale, except some dusky dots on spinous dorsal over spines and at bases of soft vertical fins. Many examples variably darker or with metallic dusky appearance and the horizontal dark bands obscured. Also many show rows of minute papillae on the head and over the scales of the lateral line.

57, 1849 (Batavia; Bantam;
Tjilatjap; Samarang; Surabaya;
Bangcallang; Java); (Madeira),
p. 4 (Bangcallang; Kammal),
Cantor, Journ. Asiatic. Soc. Bengal,
vol. 18, pt. 1, p. 1007, 1849 (1850).
(Pinang Sea; Singapore; Malay
Peninsula; Lancavy). — Jerdon,
Madras Journ. Lit. Sci., 1851, p.
140. — Bleeker, Nat. Tijds. Ned. Indië,
vol. 1, p. 160, 1850 (Banka); vol. 2,
p. 471, 1851 (Rio); vol. 3, p. 52, 1852
(Singapore), p. 408 (Pamangkbat),
p. 409 (Sampit), p. 444 (Banka);
Verh. Batavia. Genoot. (hal. Ich.
Bengal), vol. 25, p. 34, 1853
(reference); Nat. Tijds. Ned. Indië,
vol. 7, p. 311, 1854 (Bantem;
Djangkulon); vol. 9, p. 394, 1855
(North Pasuruan, Java); vol. 11, p. 418

2 rows on cheek. Lateral line with large simple tubes, well exposed, with only small trace of basal scale. Muzzle, including interorbital, suborbitals and maxillary, naked, ^{scales with} 7 basal radiating striae; no apical denticles; ~~and~~ circles moderate.

D. VII - I, 9, I, third spine $2\frac{1}{4}$ to $2\frac{1}{3}$ in total head, second ray $2\frac{1}{5}$ to $2\frac{1}{4}$; A. II, 8, I, second spine $4\frac{1}{8}$ to $4\frac{3}{4}$, second ray $2\frac{1}{3}$ to $2\frac{3}{4}$; caudal $1\frac{2}{5}$ to $1\frac{4}{5}$, little emarginate behind; least depth of caudal peduncle $3\frac{2}{3}$ to 4; pectoral 2 to $2\frac{1}{5}$; ventral $1\frac{9}{10}$ to 2.

General color grayish white, with scattered dusky to blackish dots. Deep brown band begins on snout above, extends over eye to bases of last dorsal rays. Second band from

1856 (Muntok, Bangka); vol. 12,
 p. 273, 1856 (Tobali, Bangka); vol.
 13, p. 383, 1857 (Batjan); vol. 16,
 p. 26, 1858 (Tikoe); ~~vol. 16~~ p. 434,
 (Pamangkbat); Act. Soc. Sci. Ind.
 Néerl., vol. 1, no. 3, p. 3, 1856
 (Manado); vol. 5, no. 6, p. 2, 1858-
 59 (Palembang); vol. 5, no. 7, p. 1,
 1858-59 (Sinkawang, Borneo);
 Nat. Tijds. Ned. Indië, vol. 21, p.
 138, 1860 (Muntok, Bangka). —
Günther, Cat. Fish. Brit. Mus.,
 vol. 2, p. 329, 1860 (China). — ✓
 — Bleeker, Verslag. Akad. Wet. Amsterdam,
 vol. 12, p. 31, 1861 (Singapore), p. 64 (Pinang).
 138, 1865 (Java). — Day, Fishes of
 India, pt. 2, p. 180, 1876. —
Klunzinger, Sitzs. Ber. Akad. Wiss.
 Wien, math.-naturw. Kl., vol. 80, pt.
 1, p. 373, 1879 (1880) (Cleveland Bay).

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1856 (Muntok, Banka); vol. 12,
p. 273, 1856 (Tobali, Banka); vol.
13, p. 383, 1857 (Batjan); vol. 16,
p. 26, 1858 (Tikoe); ~~vol. 16~~ p. 434,
(Pamangbat); Act. Soc. Sci. Ind.
Néerl., vol. 1, no. 3, p. 3, 1856
(Manado); vol. 5, no. 6, p. 2, 1858-
59 (Palembang); vol. 5, no. 7, p. 1,
1858-59 (Sinkawang, Borneo);
Nat. Tijds. Ned. Indië, vol. 21, p.
138, 1860 (Muntok, Banka). —
Günther, Cat. Fish. Brit. Mus.,
vol. 2, p. 329, 1860 (China). ✓
Day, Fishes of Malabar, p. ~~155~~⁶², 1865.
— Kner, Reise Novara, Fische, p.
138, 1865 (Java). — Day, Fishes of
India, pt. 2, p. 180, 1876. —
Klunzinger, Sitzs. Ber. Akad. Wiss.
Wien, Math.-naturw. Kl., vol. 80, pt.
1, p. 373, 1879 (1880) (Cleveland Bay).

Depth $2\frac{2}{5}$ to $2\frac{3}{5}$; head 2 to $2\frac{1}{3}$, width $1\frac{7}{8}$ to $2\frac{2}{3}$. Snout $3\frac{7}{8}$ to $4\frac{1}{4}$ in head from snout tip; eye $2\frac{4}{5}$ to 3, greatly longer than snout or interorbital; maxillary reaches $\frac{4}{5}$ or to hind eye edge, expansion $1\frac{3}{4}$ to 2, length $1\frac{7}{8}$ to 2 in head; teeth villiform, in bands in jaws, on vomer and palatines; interorbital $3\frac{4}{5}$ to 4, scarcely convex; preopercle ridge entire, edge finely serrate. Gill rakers 3 + 12, lanceolate, uppermost 2 and lowermost 4 rudimentary tubercles, twice gill filaments or $1\frac{7}{8}$ in eye. Deep gash on lower inner face of gill opening.

Scales 20 to 23 in lateral line to caudal base and 2 or 3 more on latter, 2 above, 6 below, 4 predorsal,

— Macleay, Proc. Linn. Soc. New
 South Wales, vol. 8, p. , 1883
 (Lower Burdekin River). — Meyers,
 Ann. Soc. Sci. ^{Espan.} Hist. Nat. ~~Madrid~~,
 vol. 14, p. 23, 1885 (North Celebes).
 — Vinciguerra, Ann. Mus. Civ.
 Stor. Nat. Genova, vol. 29, p. 169,
 1889 (Rangoon). — Day, Fauna
 Brit. India, Fishes, vol. 2, p. 106,
 1889. — Kent, Great Barrier Reef,
 1893, p. (Endeavour River). —
Luncker, Mitteil. Naturh. Mus.
 Hamburg, vol. 21, p. 155, 1903 (1904)
 (Kuala Lumpur). — Seale,
 Philippine Journ. Sci., vol. 5, no. 4,
 p. 269, October 1910 (Sandakan). —
Weber, Sibogha Exped., vol. 57, Fische,
 p. 141, 1913 (Makassar). — Rendahl,
 Medd. Zool. Mus. Kristiania, nr.
 5-6, p. 183, 1922 (Robuck Bay). —

8 to 18. Caudal usually forked, rays 15. Pectoral rays branched. Ventral with spine and 5 rays.

A small family and though several genera have been admitted at various times, the species are homogeneous. Fishes of small size in the Indo Pacific, usually brilliant or silvery white in color. They live in the sea and about the mouths of rivers, some in fresh water near the sea. Though all have a very similar appearance they are easily distinguished from the Cheilodipteridae by the combination of cycloid scales, basal dorsal and anal sheaths, procumbent predorsal spine, dorsals usually joined basally, usually the presence of 3 anal spines and their silvery coloration.

We admit the genera ^{*Tetraodon macleay*} *Hamiltonia*

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— Tirant, Serv. Océan. Pech. Indo
Chine, p. 169, 1929 (Thudamot,
Hué, Cochin China).

Trichidion tetradactylus Gill,
Proc. Acad. Nat. Sci. Philadelphia,
1861, p. 276 (reference).

Eleutheronema tetradactylum
Bleeker, Verslag. Med. Kon. Akad.
Amsterdam, vol. 14, p. 124, 1862

— Weber and Beaufort, Fishes
Indo Austral. Archip., vol. 4, p.
199, fig. 64, 1822 (Deli and Bagan
Api Api, Sumatra; Stagen and
Balikpapan, Borneo; Batavia,
Cheribon and Antjol, Java; Makassar,
Celebes). — Vinciguerra, Ann.

3010 [D. 5376.] Jayabas Light, N. 53°
W. 18.7 miles. March 2, 1909. 8 examples.
Length 36 to 98 mm. [1184.] Silvery,
rosy above, steel blue and blackish
shades below. Fins rosy. Anal with
some blackish basally and ventrals
with black.

[D. 5193.] Chocolate Island, N. 77° E. 8
miles, off northern Cebu. April 3, 1908.
Length 36 mm.

Mus. Civ. Stor. Nat. Genova, ser.
3, vol. 10, p. 595, 1921-26 (Sarawak).

— Chevey, Serv. Inst. Océan.

Indo-Chine, 19^e note, p. 20,

August 25, 1932 (Annam;

Cochin China); — Giltay, mem.

Mus. Reg. Hist. Nat. Belge, vol.

5, pt. 3, p. 112, April 30, 1933

(Manokwari, New Guinea).

— Chevey, Serv. Inst. Océan. Indo

Chine, 19^e note, p. 20, August 25,

1932 (Annam; Cochin China).

Family Chandidae.

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Body more or less elevated, ventral edge rounded, often somewhat transparent. Head compressed. Mouth oblique to nearly vertical. Teeth conic, in bands in jaws and on vomer and palatines. Preorbital and preopercle usually with serrated ridges and edges. Gill membranes free. Pseudobranchiae present. Branchiostegals 6. Lower pharyngeals not coalesced. Scales cycloid. No elongate axillary scale. Lateral line usually complete, variably interrupted or incomplete, or even absent. Dorsal base in deep scaly sheath; spines 7, compressed and transversely striated, anteriorly another short procumbent spine; rays 8 to 17. Anal spines 3, rays

Eleutheronema tetradactylus
Bleeker, ned. Tijds. Dierk., vol.
2, p. 174, 1865 (Siam); Verslag.
Akad. Wet. Amsterdam, ser. 2,
vol. 2, p. 293, 1868 (Rio, Bintang);
ned. Tijds. Dierk., vol. 4, p. 143,
1873 (1874) (Amoy). — McCulloch,
Mem. Austral. Mus.,
vol. 5, pt. 1, p. 120, June 29, 1929
(reference). — Chu, Biol. Bull.
St. John's Univ., no. 1, p. 106,
January 1931 (reference). — Herre
and Myers, Singap. Sci. Journ.,
vol. 10, nos. 2-3, p. 250, August
1931 (Canton).

Salayer). — Fowler, Proc. Acad. Nat.
 Sci. Phila., 1927, p. 274 (Philippines).
Chilodipterus quinquelineatus Günther,
 Cat. Fishes Brit. Mus., vol. 1, 1859, p. 248
 (Amboyna). — Playfair, Fishes of Zanzibar,
 1866, p. 22 (Zanzibar and Aden). —
Günther, Journ. Mus. Godeffroy, Journ.
 Mus. Godeffroy, vol. 1, pt. 1, 1873, p. 23
 (Society Islands; Taumotu). — Klunzinger,
 Fische Roth. Meer., 1874, p. 23. — Steindachner
 and Döderlein, Denksch. Akad. Wiss. Wien,
 vol. 48, 1884, p. 4 (Kagoshima, Japan). —
Day, Fauna Brit. India, vol. 1, 1889, p. 502.
 — Elera, Cat. Fauna Filip., 1895, p. 471
 (Cebu). — Regan, Journ. Lin. Soc. London,
 vol. 12, ser. 2, 1907, p. 224 (Diego Garcia,
 Chagos Archipelago). — Barnard, Ann. South
 Afr. Mus., vol. 21, 1927, p. 526 (Mozambique).
Paramia quinquelineata Bleeker, Atlas
 Ichth. Ind. Néerl., vol. 7, 1873-76, p. 105,
 pl. (48) 326, fig. 2 (Sumatra, Nias, Batu,

Polydactylus tetradactylus Elera,
Cat. Fauna Filipinas, vol. 1, p. 504,
1895 (Luzon; Manila). — Rutter,
Proc. Acad. Nat. Sci. Philadelphia,
1897, p. 71 (Swatow). — Jordan and
Richardson, Bull. Bur. Fisher.,
vol. 27, p. 245, 1907 (1908) (Manila).
— Seale, Philippine Journ. Sci.,
vol. 9, p. 61, 1914 (Hong Kong).

Polydactylus (Eleutheronema)
tetradactylus McCulloch, Rec.
Western Austral. Mus., vol. 1, p. 214,
1914

— McCulloch and Whitley, Mem.
Queensland Mus., vol. 8, pt. 2,
p. 142, July 7, 1925 (reference).

Cheilodipterus quinque lineatus Cuvier.

Cheilodipterus quinque lineatus Cuvier, Hist. Nat. Poiss., vol. 2, 1828, p. 167. Society Islands. — Lesson, Voy. Coquille, Zool., vol. 2, pt. 1, 1830, p. 237 (Borabora, Society Islands). — Rüppell, Neue Wirbelth., Fische, 1835, p. 89 (Red Sea). ~~Günther, Cat. Fishes Brit. Mus., vol. 1, 1857, p. 248~~ ~~(Seymour)~~. — Klunzinger, Verh. zool. bot. Ges. Wien, vol. 20, 1870, p. 716 (Koseir, Red Sea). — Day, Proc. Zool. Soc. London, 1870, p. 682 (Andamans); Fishes of India, pt. 1, 1875, p. 66. — Castelnau, Res. Fish. Austral. (Victoria Office Rec. Phila. Exhib.), 1875, p. (Cape York, Queensland). — Meyer, Ann. Soc. Españ. Hist. Nat. Madrid, vol. 14, 1885, p. 13 (Cebu; Rubi, New Guinea). — Thurston, Notes Pearl Fisher. Manar, 1890, p. 91 (Pamban). — Weber, Siboga Exped., vol. 65, ^{57, Fide,} 1913, p. 239 (Biam Island;

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Polynemus teria Buchanan-Hamilton,
Fishes of Ganges, pp. 244, 381, 1822
(type locality, Gangetic estuaries).
— Gray, Illustrat. Ind. Zool.
Hardwicke, vol. 2, pl. 92, fig. 2,
1832.

Polynemus sallia Cantor, Journ. Roy.
Asiatic Soc. Bengal, vol. 5, p. 166, 1838

Polynemus quadrifiliis (not
Cantor, Journ. Roy. Asiatic Soc.
Bengal, vol. 5, p. 166, 1838

Polynemus coecus Macleay, Proc.
Linn. Soc. New South Wales, vol. 2,
pt. 4, p. 354, pl. 9, fig. 1, June 1878
(type locality, Port Darwin,
Northern Territory); ~~Asiatic~~ vol.
8, p. , 1883

9705, 14397, 14937, 22736, 23551 to
23554. Talise Island, north of Celebes.

November 9, 1909. Length 52 to 144 mm.

23852, 23853, 23922. Togian Bay,
Togian Island, Gulf of Tomini, Celebes.

November 19, 1909. Length 96 to 123 mm.

21474. Dowanra Island. December 2,
1909. Length 112 mm.

13055. Gommoo Island. December 3,
1909. Length 128 mm.

23051. Tomahu Island. December 11,
1909. Length 62 mm.

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Polydactylus rhadinus Jordan
and Evermann, Proc. U. S. Nat.
Mus., vol. 25, p. 351, fig. 20, 1902
(type locality, Formosa).

Polydactylus plebeius (not Broussonet)
Fowler, Copeia, no. 58, June 18, 1918,
p. 64 (Philippines).

17856. Bumbum Island, vicinity
of Darvel Bay, Borneo. September 25,
1909. Length 145 mm.

23044 and 23045, ^{23760.} Daisy Island,
west of Bumbum Island. January 6,
1910. Length 67 to 125 mm.

15833. Reef north west Tuminiao,
vicinity of Darvel Bay. September 24, 1909.
Length 125 mm.

14873 and 23393. Udepo and Paseyo
Islands, Gulf of Tomini, Celebes.
November 16, 1909. Length 123 to 135 mm.

13093. Kapopozang Island, Celebes.
December 28, 1909. Length 146 mm.

20666. Sadaa Island, Celebes. November
17, 1909. Length 131 mm.

Depth $3\frac{4}{8}$ ^{4 to 4}; head $3\frac{2}{5}$ ^{4 to 4 1/2}, width $2\frac{1}{2}$ ^{2 to 2 1/2}.
Snout $6\frac{1}{8}$ ^{1 to 6 1/2} in head; eye $5\frac{2}{3}$ ^{4 to 5 2/3}, greater
than snout, $1\frac{1}{5}$ ^{1 to 1 1/5} in interorbital;
maxillary expansion 2 in eye,
length $1\frac{4}{5}$ ^{1 2/5 to 1 4/5} in head; villiform teeth
in bands in jaws, on vomer and
palatines; lower lip only rectal
 $\frac{2}{5}$ of mandible; interorbital $4\frac{1}{2}$ ^{4 2/5 to 4 1/2}
in head, broadly convex; preopercle
edge serrated above angle.
Gill rakers 7 + 9, lanceolate.

Scales 70 ^{to 80} in lateral line to
caudal base; 9 ^{or 10} above, 13 ^{or 14} below,
 37 ^{to 40} predorsal. Scales with 5 ^{to 7} ~~or 6~~
basal radiating striae; 45 or 46
apical denticles, with 8 to 10
transverse series of basal elements,
circuli fine.

D. VIII - I, I, 12, I, I^{to I, I, 15, I}, first spine
 $1\frac{2}{5}$ ^{2 to 3}₁ in head, first simple ray $1\frac{1}{3}$ ₁^{to 1 2/3}.

Amia atrogaster Smith and Radcliffe

Amia atrogaster Smith and Radcliffe, Proc.
U. S. Nat. Mus., vol. 41, 1912, p. 439, pl. 35,
fig. 3. West coast of Luzon (N. Lat. $16^{\circ}30'$
 $36''$, E. Long. $120^{\circ}11'6''$, in 45 fathoms).

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A. II, I, 14, I, ^{to II, I, 16, I} second spine $2\frac{7}{8}$,
 first simple ray $1\frac{2}{5}$; least depth
 of caudal peduncle $2\frac{1}{4}$; ^{to $2\frac{2}{5}$} ventral
 2; pectoral $1\frac{1}{3}$, ^{rays 16 or 17,} filaments 4.
 and longest not quite to depressed
 ventral tip; caudal $2\frac{7}{8}$ in rest
 of body, forked.

Brown, paler below. Iris
 gray. Dorsals and caudal dusted
 with dusky terminally.

India, Burma, Malaya,
 Ceylon, Andamans, Siam, East
 Indies, Philippines, Indo China,
 China, ^{up} Formosa, Western Australia,
 North Australia, Queensland.

Depth 3 to $3\frac{4}{5}$; head $2\frac{2}{5}$ to $2\frac{3}{5}$, width $2\frac{2}{5}$ to $2\frac{3}{5}$. Snout $3\frac{3}{5}$ to 4 in head from snout tip; eye 3 to $3\frac{4}{5}$, greater than snout in young and subequal with age, greater than interorbital at all ages; maxillary reaches $\frac{2}{3}$ to $\frac{4}{5}$ in eye, expansion $1\frac{4}{5}$ to $2\frac{1}{5}$ in eye, length $1\frac{7}{8}$ to 2 in head; 4 or 5 lower canines each side in lower jaw and 3 to 5 each side in upper, and narrow band or row ^{of minute teeth} on vomer and each palatine; interorbital $4\frac{1}{2}$ to 5, nearly level; preopercle ridge and edge entire in young, edge minutely serrate with age. Gill rakers 1 + 7, with 5 rudiments above and 7 below; length equals gill filaments or $2\frac{3}{4}$ in eye.

Scales 22 in lateral line to caudal base and 4 more on latter, 2 above, 5 or 6 below, 6 predorsal; 2 or 3 rows of scales on

2549
A. N. S. P., one example. Philippines.
Commercial Museum of Philadelphia.
Length 160 mm. As Polydactylus
plebeius.

duplicated stripes from eye obliquely
 across cheek. Another pair down
 opercle and 2 across ^{side} under spinous
 dorsal, with iridescent blue interval
 between each pair. Caudal peduncle
 dusky, continued along dorsal base.
 Dorsals somewhat dusky at tip, but
 of general yellowish color of back.
 Anal and ventrals pink.

23771 to 23773. Ulugan Bay, Palawan
 Island. December 28, 1908. Length 38 to
 41 mm. 3 examples.

241. Ulugan Bay. December 29, 1908.
 Length 40 to 45 mm. 3 examples.

[D. 5143]. Jolo Light, S. 50° W., 3.40 miles
 ($6^{\circ}05'50''$ N., $121^{\circ}02'15''$ E.), vicinity of
 Jolo. In 19 fathoms. February 15, 1908.
 Length 42 mm.

Eleutheronema tridactylum (Bleeker)

Polynemus tridactylus Bleeker,
 Nat. en Geneesk. Arch. Ned. Indië,
 vol. 2, pt. 3, p. 524, 1845 (type
 locality, Batavia); Verh. Batavia.
 Genoot. (Pereoid.), vol. 22, p. 57,
 1849 (Batavia, Pasuruan); Nat.
 Tijds. Ned. Indië, vol. 9, p. 394,
 1855 (North Pasuruan). — Volz,
 Zool. Jahrb., Abth. Syst., vol. 19, p.
 359, 1903 (Sumatra). — Duncker,
 Mitteil. Naturh. Mus. Hamburg, vol.
 21, p. 155, 1903 (1904) (Iruar River
 at Bandar Maharani).

Trichidion tridactylus Gill,
 Proc. Acad. Nat. Sci. Philadelphia,
 1861, p. 276 (reference).

8043 [341]. Tumindao Island,
Sulu Archipelago. February 26, 1908.
Length 131 mm.

23072. Tumindao Reef south end.
February 26, 1908. Length 54 mm.

7921, 7923, 11688, 23048. Tuta Bay,
first anchorage, Jolo Island. September
19, 1909. Length 71 to 138 mm.

16087, 16088, 16089, 24113. Ulugan Bay,
Oyster Inlet, Palawan. December 28, 1908.
Length 46 to 108 mm.

240. Ulugan Bay, Palawan Island.
December 29, 1908. Length 106 mm.

14519, 15438, 15440. Ulugan Bay, Rita
Island. December 29, 1908. Length 77 to
148 mm.

Eleutheronema tridactylum Bleeker,
 Verslag. Akad. Wet. Amsterdam, vol.
 14, p. 124, 1882.

— Weber and Beaufort, Fish. Indo
 Austral. Archip., vol. 4, p. 198, 1922
 (Bleeker's specimen). — Vinciguerra,
 Ann. Mus. Civ. Stor. Nat. Genova,
 ser. 3, vol. 10, p. 596, 1921-26
 (Sarawak). — Hardenberg, Treubia,
 vol. 13, livr. 1, p. 121, July 1931
 (Roban River mouth, Sumatra).

Depth ^{head} $4; 3 \frac{3}{5}$. Eye $5 \frac{1}{3}$ in head,
 less than snout, $1 \frac{3}{5}$ in interorbital;
 mouth large, begins $\frac{3}{4}$ of eye diameter
 behind snout tip, reaches far
 behind eye; maxillary $1 \frac{4}{5}$ in
 head; only lower lip developed,
 near mouth angle; upper and lower
 jaws with broad band of villiform

15769 to 15772. Sacol Island, east of Zamboanga Island. September 9, 1909. Length 83 to 142 mm.

17786. San Miguel Island, Tabaco Bay, Mindoro Island. June 4, 1909. Length 170 mm.

12228 and 14175. Santa Cruz Island, Marinduque. April 24, 1908. Length 96 to 127 mm.

24062. Shore above Iloilo River, Panay. June 2, 1908. Length 48 mm.

19017. Tapanzana Island, south of Zamboanga. September 13, 1909. Length 160 mm.

23034. Tataan, Simaluc Island. February 20, 1908. Length 141 mm.

2857a

teeth, extend outside jaws; similar teeth in triangular patch on head of vomer and broad bands on palatines; hind preopercle edge serrated, angle produced and rounded.

Scales 70 to 78 in lateral line; 12 above, 15 below. Vertical fins nearly covered with scales. Scales finely striped, with crenulated hind border.
D. VII - I, 13, origin of first dorsal ̄ between pectorals and ventrals; second dorsal origin slightly before anal origin; first rays of dorsals and anal subequal, less than postorbital; A. I, 15, edge, like second dorsal edge, ̄ deeply concave; caudal deeply forked; pectoral falciform, equals space between eye center and hind opercle edge, upper filament long as head without

2852

snout, second somewhat shorter
and third much shorter, rays $\overline{\text{I}}$, 17
+ 3; ventral slightly longer than
snout and eye, rays $\overline{\text{I}}$, 5.

Golden, darker above. Fins
yellowish, pectoral somewhat
darker. Length 354 mm.
(Weber and Beaufort.)

Malacca, East Indies.

Genus Galeoides Günther

2853

Galeoides Günther, Cat. Fish.

Brit. Mus., vol. 2, p. 332, 1860.

(Type Polynemus polydactylus
Vahl, monotypic.)

Maxillary not much widened behind. Bands of villiform teeth in both jaws and on palatines, none on vomer or pterygoids. Preopercle edge serrate. Air bladder simple, large. Scales moderate. Two separate dorsals, first with 8 feeble spines. Soft dorsal and anal nearly equal.

West coast of Africa and China, the former species Galeoides polydactylus (Vahl).

Galeoides microps Steindachner²⁸⁵⁴

Galeoides microps Steindachner,
Sitzb. Ber. Akad. Wiss. Wien,
math.-naturw. Kl., vol. 60, pt. 1,
p. 137, 1870 (type locality, China).
— Bleeker, Ned. Tijds. Dierk., vol.
4, p. 169, 1873 (1874) (reference).
— Reeves, Journ. Pan. Pac. Res.
Inst., vol. 3, no. 2, p. 10, 1927
(reference). — Chu, Biol. Bull.
St. John's Univ., no. 1, p. 106, January
1931 (reference).

23635²³⁶³⁶, 23638, 23639. Murcielagos Bay,
Mindanao Island. August 21, 1909.

Length 49 to 128 mm. ⁵Examples.

10655. Polloc, Mindanao Island.

May 22, 1908. Length 141 mm.

15477, 15478, 17165. Port Natalvi, Luzon.

November 23, 1908. Length 137 to 156 mm.

23263. Port Palapag, eastern Luzon.

June 3, 1909. Length 108 mm.

5550. Rasa Island, Mantaguin Bay,
Palawan Island. April 1, 1909. Length
193 mm.

23070. Romblon Harbor, Romblon.

March 25, 1908. Length 99 mm.

7015. Romblon. March 26, 1908.

Length 184 mm.

Depth $6\frac{3}{5}$; head $5\frac{3}{5}$. Snout $4\frac{1}{2}$
in head; eye $9\frac{1}{2}$; interorbital
 $3\frac{2}{5}$.

Scales 70 in lateral line; 7 above.

D. VIII — I, 16; A. III, 12; pectoral
filaments 7, longest nearly reaches
caudal tip.

Above greenish gray, below
soiled yellowish. Pectoral ~~pale~~
blue gray, whitish medially.
(Steindachner.)

China. Size not given.

14241, 14245, 14246. Candaraman Island,
Balabac. January 4, 1909. Length 128 to
151 mm.

23986. Cataingan Bay, Masbate Island.
April 15, 1908. Length 85 mm.

16316, 23381, 23382. Endeavor Strait,
north-west coast of Palawan.

December 23, 1908. Length 88 to 117 mm.

6803. Gigoro Point, Iginapundan Bay,
Samar Island. July 28, 1909.

Length 105 mm.

15205. Mactan Island, Cebu. March
25, 1909. Length 141 mm.

23039 to 23041. Makesi Island, Palawan.
April 5, 1909. Length 150 to 161 mm.

Genus Polydactylus Lacépède

Polydactylus Lacépède, Hist. Nat. Poiss., vol. 5, p. 419, 1803. (Type Polydactylus plumieri Lacépède, monotypic.)

Trichidion Klein, Gesells.

Schauplatz., vol. 3, p. 592, 1776. (Type Polynemus virginicus Linnaeus, monotypic.) (Inadmissible.)

Polistonemus Gill, Proc. Acad. Nat.

Sci. Philadelphia, 1861, p. 277.

(Type Polynemus multifilis Schlegel, monotypic.)

Maxillary well widened behind.
Bands of villiform teeth in jaws,
on vomer, palatines and
ectopterygoids. Preopercle edge
denticulate and scaly flap at
angle. Pyloric coeca numerous.
Scales rather small, finely
ctenoid. Dorsal spines 7 or 8,
rather long, first and last
short. Soft dorsal and anal
subequal. Pectoral filaments
3 to 9, mostly shorter than body.

Species rather numerous in
the tropical Atlantic and Indo-
Pacific.

9293, 11274, 16364. Biri Channel, east coast of Luzon. June 1, 1909. Length 117 to 180 mm.

9941. Biri Channel. June 2, 1909. Length 139 mm.

16868. Bisuay Island, Cuyo Islands. April 9, 1909. Length 182 mm.

23042 and 23043. Bolalo Bay, Palawan Island. December 21, 1908. Length 156 to 165 mm.

15028, 16770 to 16774. Busin Harbor, Burias Island. March 7, 1909. Length 66 to 167 mm.

172. Busin Harbor. March 8, 1909. Length 158 mm.

7483. Busin Harbor. April 22, 1909. Length 196 mm.

2858

Polydactylus borneensis (Bleeker)

Polynemus borneensis Bleeker, Act.
Soc. Sci. Ind. Néerl., vol. 2, no. 6,
p. 3, 1857 (type locality, Kahayan,
Borneo); vol. 3, no. 6, p. 2, 1857-58
(Sinkawang, Borneo); Nat. Tijds.
Ned. Indië, vol. 16, p. 196, 1858
(Sinkawang); Act. Soc. Sci. Ind.
Néerl., vol. 5, no. 7, p. 1, 1858-58
(Sinkawang). — Weber and Beaufort,
Fish. Indo Austral. Archip., vol.
4, p. 214, 1922. (Bleeker's specimen).

large examples. Small examples with small obscure dusky neutral blotch, less than pupil, at middle of caudal base. Also many examples with still more contrasted blotch of blackish surrounding vent. Fins brownish, more or less clouded with deeper or dusky and spinous dorsal usually quite dark terminally. Ventrals darker terminally. Iris brownish.

Singapore, East Indies, Philippines. Easily known by its subdued coloration and the dark longitudinal bands not extending on the head.

Polynemus macronema (not
Bleeker, Nat. Tijds. Ned. Indië,
vol. 3, p. 419, 1852 (part)).

Trichidion macronemus Gill,
Proc. Acad. Nat. Sci. Philadelphia,
1861, p. 274 (reference).

? Trichidion hilleri Fowler, Proc.
Acad. Nat. Sci. Philadelphia,
vol. 57, p. 502, fig. , 1905 (type
locality, Baram River, British
North Borneo).

Scales 22 or 23 in lateral line to caudal base and 2 or 3 more on latter, 2 above, 7 below, 7 predorsal; 3 or 4 rows of scales on cheek to preopercle ridge. ^{Scales with} 15 to 27 basal radiating striae; 81 to 116 apical denticles, with 3 to 6 transverse series of basal elements; ~~and~~ circuli fine.

D. VI - I, 9, I, third spine $2\frac{1}{8}$ to $2\frac{2}{3}$ in total head length, first ray $1\frac{2}{3}$ to $1\frac{4}{5}$; A. II, 8, I, second spine $2\frac{3}{4}$ to 3, first ray $1\frac{3}{5}$ to 2; caudal $1\frac{1}{3}$ to $1\frac{2}{3}$, hind edge slightly emarginate with lobes rounded; least depth of caudal peduncle $2\frac{1}{2}$ to $2\frac{4}{5}$; pectoral $1\frac{4}{5}$ to 2; ventral $1\frac{7}{8}$ to 2.

Brown on back and above, little paler below. Traces of 5 diffuse dark brown longitudinal bands, not well defined and more obscure in

Depth $4\frac{1}{6}$; head $3\frac{3}{4}$, width $1\frac{4}{5}$. Snout 4 in head; eye 9, $2\frac{1}{2}$ in snout, 3 in interorbital; maxillary reaches $\frac{2}{3}$ in head or about 3 eye diameters behind eye, expansion $1\frac{1}{4}$ times eye, maxillary from its own tip 2 in head; teeth in jaws minute. asperities in rather broad band like patches, not confluent; similar patches on palatines; vomer toothless; interorbital 3, broadly convex. Gill rakers $13+18$, little longer than gill filaments or little more than maxillary expansion.

Scales 68 in lateral line to caudal base and 11 more on latter; 7 above, 9 below. Head scaly, except lips and branchial flaps.

Amia~~Apogonichthys~~ apogonoides (Bleeker)

Cheilodipterus apogonoides Bleeker, Act.
 Soc. Sci. Ind. Néerl. (Manado), vol. 1, 1856,
 p. 37. Manado, Celebes. — Günther, Cat.
 Fishes Brit. Mus., vol. 1, 1859, p. 249
 (copied).

Chilodipterus apogonoides Károli, Termész.
 Füzetek, Budapest, vol. 5, 1882, p. 152
 (Singapore).

Amia apogonoides Bleeker, Atlas Ichth.
 Ind. Néerl., vol. 7, 1873-76, p. 97 (Celebes);
 vol. 8, 1876-77, pl. (63) 341, fig. 2.

Apogon apogonoides Weber, Siboga Exped.
 vol. 57, Fische, 1913, p. 230 (Banda).

D. VII - IV, 16, second spine $1\frac{1}{3}$
 in head, first branched ray $1\frac{2}{3}$;
 A. III, 12, first branched ray $1\frac{4}{5}$;
 least depth of caudal peduncle
 $2\frac{3}{5}$; ventral $1\frac{1}{2}$; second simple
 pectorals $2\frac{7}{8}$ in body without
 caudal, rays II, 15; filaments 6,
 very long, first and third longest
 and ^{flatter} longer than entire fish;
 upper caudal lobe $2\frac{3}{5}$ in rest
 of fish.

Pale brownish white or pale
 brownish. Back darker brown with
 minute pale dusky dots on side of
 head and above pectoral. Side and
 lower surface of head and snout

named with reference to its
black peritoneum. Specimens in
alcohol fragile and tender. Only
known from the types.

Geopelia

D 5442. Eight examples. San Fernando
Is. $309^{\circ} \text{E. } 8.4$ miles
Point Light, west coast of Luzon ($16^{\circ} 30' 36''$
N., $120^{\circ} 11' 06'' \text{E.}$). May 10, 1907. Length
46 to 59 mm. Type no. 70,249, U.S.N.M.
and 7 paratypes.

whitish like abdomen. Iris pale
slate. Dorsals and caudal
sprinkled with similar pale
dusky or gray dots and also
slightly darker than other fins.
Upper edges of dorsals slightly
darker. Other fins like abdomen,
except pectoral which deep ^{neutral} ~~slate~~
black on outer $\frac{2}{3}$. Pectoral filaments
pale, like fin at base, soon
becoming gradually browner
till colored like back.

East Indies.

specimens have any scales we have omitted their structure.

D. VII - I, 9, I, third spine $2\frac{2}{5}$ to $2\frac{4}{5}$ in total head length, first ray $1\frac{3}{4}$ to $2\frac{1}{8}$; A. II, 8, I, second spine $2\frac{4}{5}$ to $3\frac{1}{8}$, first ray $2\frac{1}{5}$ to $2\frac{1}{3}$; caudal $1\frac{1}{2}$ to $1\frac{3}{4}$, emarginate behind; least depth of caudal peduncle $3\frac{1}{8}$ to $3\frac{1}{2}$; pectoral 2 to $2\frac{1}{8}$; ventral $2\frac{1}{8}$ to $2\frac{1}{5}$.

Pale drab brown or gray, below on head and abdomen whitish. Mandible tip dusky. Dark brown bar on side of snout well below nostril obliquely to eye, its width much less than pupil. Head above, cheeks and opercles with obscure brown dots. Fins all pale or whitish, sprinkled with dusky dots on spinous dorsal. Ventrals white.

Amphiprion

A. N. S. P., no. _____ Baram

River, British North Borneo. 1897.

A. C. Harrison and H. M. Miller.

Length 225 mm. Type of
Trichidion hilleri.Wistar Institute of Anatomy of
Philadelphia.

Depth $2\frac{3}{5}$ to $3\frac{3}{4}$; head $2\frac{2}{5}$ to $2\frac{3}{5}$,
width $2\frac{1}{4}$ to $2\frac{1}{2}$. Snout $4\frac{1}{8}$ to $4\frac{1}{2}$ in
head from snout tip; eye $3\frac{2}{5}$ to $3\frac{1}{2}$,
greater than snout or interorbital;
maxillary reaches $\frac{2}{5}$ to $\frac{4}{5}$ in eye,
expansion $2\frac{1}{5}$ to $2\frac{1}{2}$, length 2 to $2\frac{1}{2}$;
teeth villiform, in bands in jaws,
on vomer and apparently absent
from palatines; interorbital $4\frac{1}{3}$ to
 $4\frac{4}{5}$, level; preopercle ridge
and edge finely denticulate. Gill
rakers 8 + 20, lanceolate, $2\frac{1}{2}$ in eye
or little longer than gill filaments.

Scales (pockets) 24 in lateral
series to caudal base and 3 or 4?
more on latter, 8 or 9 transversely,
about 4 transversely, 2 rows on
cheek; head naked, except cheeks
and opercles; as but few of the

2864

Polydactylus dubius (Bleeker)

Polynemus dubius Bleeker, Verh.
Batavia. Genoot. (Nal. Ich. Bengal),
vol. 25, p. 92, 1853 (diagnosis in
key) (type locality, not given [= India]);
Nat. Tijds. Ned. Indië, vol. 8, p.
152, 1855 (Bandjermassing); vol. 9,
p. 418, 1855 (Bandjermassing); Act.
Soc. Sci. Ind. Néerl., vol. 3, no. 9, p.
6, 1857-58 (Palembang); vol. 5, no.
6, p. 2, 1858-59 (Palembang). —
Weber and Beaufort, Fish. Indo
Austral. Archip., vol. 4, p. 215, 1922
(Bagan Api Api and Tanah Puteh,
Sumatra). — Vinciguerra, Ann.
Mus. Civ. Stor. Nat. Genova, ser. 3,
vol. 10, p. 594, 1921-26 (Sarawak). —
Hardenberg, Treubia, vol. 13, livr. 1,
p. 124, July 1931 (Rokan River mouth, Sumatra).

Depth $3\frac{2}{5}$ to $3\frac{1}{2}$; head $2\frac{1}{2}$ to $2\frac{2}{3}$, width
 $2\frac{2}{3}$ to $2\frac{4}{5}$. Snout $3\frac{1}{2}$ to 4 in head from
 upper jaw tip; eye $3\frac{3}{4}$ to 4, greater than
 snout or interorbital though subequal
 with snout with age; maxillary to hind
 pupil edge in young, to hind eye edge
 with age, expansion $1\frac{4}{5}$ to 2 in eye,
 length $1\frac{2}{5}$ to $1\frac{7}{8}$ in head; anteriorly
 above 6 canines and as many smaller
 conic teeth, below 4 large front canines
 and 3 lateral each side; posteriorly
 in upper jaw and on vomer and
 each palatine ~~teeth~~ band of villiform
 teeth; interorbital $5\frac{1}{2}$ to 6, level;
 preopercle ridge and edge entire,
 latter finely serrate in young. Gill
 rakers $1 + 7$, ^{also} with 2 rudiments
 above and 5 or 6 below; length $\frac{3}{4}$ of
 gill filaments or $3\frac{2}{3}$ in eye.

Trichidion dubius Gill, Proc. Acad.
Nat. Sci. Philadelphia, 1861, p. 274
(reference).

Polynemus longifilis (not
Bleeker, Nat. Tijds. Ned. Indië, vol. 1,
p. (259) 268, 1850 (Bandjermassing))

Cheilodipterus singapurensis Bleeker

Cheilodipterus singapurensis (Castelnau) Bleeker,
Nat. Tijds. Ned. Indië, vol. 20, 1859-60, p. 452.

Singapore. — Károli, Termész. Füzetek,
Budapest, vol. 5, 1852, p. 153 (Singapore).

— Beaufort, Bijdr. Dierk., Amsterdam,
1913, p. 116 (Beo, Majalibit Bay, Waigiu).

Paramia singapurensis Bleeker, Atlas
Ichth. Ind. Néerl., vol. 7, 1873-76, p. 106,
pl. (35) 313, fig. 4 (Singapore).

2866

Polydactylus guichenoti (Bocourt)

Polynemus guichenoti (Bocourt) Bleeker,
Ned. Tijds. Dierk., vol. 2, p. 172 (type
locality, Siam) (no description or
figure).

Trichidion guichenoti Bleeker, Ned.
Tijds. Dierk., vol. 2, p. 174, 1865
(reference).

1 specimen. Gomonos Island, Pitt
Passage. December 3, 1909. Length
75 mm.

Depth $3\frac{9}{10}$; head $3\frac{9}{10}$. Eye nearly 7 in head, $1\frac{1}{2}$ in snout, $1\frac{4}{5}$ in interorbital; mouth large, reaches far behind eye; maxillary $2\frac{1}{5}$ in head; no upper lip, lower well developed; bands of small teeth in jaws, not extending outside and oblong patch on each palatine; small patch on vomer; preopercle feebly serrated, angle rounded, scarcely produced; interorbital convex.

Scales 67 in lateral line; 5 above, 15 below. Maxillaries scaly. Soft vertical fins scaly.

D. VIII I, 16, first dorsal origin between pectoral and ventral, spines soft, flexible, first subequal with second or longest, little shorter than head without snout; second dorsal origin well

2967a

before anal origin, weak spine
somewhat longer than second
anal spine, which half of
postorbital; A. II, 11; caudal
very deeply forked; pectoral
rays 17 + 7, all rays simple, longer
than by nearly twice eye; 2 upper
pectoral filaments exceed tail
tip by more than head and body
length, third filament not
reaching end of tail, fourth and
fifth reaching to or on anal, sixth
and seventh to ventral tips;
ventral I, 5, equals postorbital.

Yellowish, browner above.
Fins yellowish. Length 169 mm.
(Weber and Beaufort)
East Indies.

2868

Polydactylus heptadactylus (Cuvier)

Polynemus heptadactylus Cuvier,
Hist. nat. Poiss., vol. 3, p. 300, 1829.
(type locality, Batavia). — Bleeker,
Verh. Batavia. Genoot. (Perc.), vol.
22, p. 60, 1849 (Batavia; Samarang;
Cheribon). — Cantor, Journ. Asiatic
Soc. Bengal, vol. 18, pt. 2, p. 1016,
1849 (Pinang Sea). — Bleeker, Nat.
Tijds. Ned. Indië, vol. 12, p. 213,
1856 (bias); Act. Soc. Sci. Ind.
Néerl., vol. 8 (Sumatra), p. 11, 1859
(Benculen). — Günther, Cat. Fish.
Brit. Mus., vol. 2, p. 321, 1860
(Madras; Malay Peninsula; Kurrachee;
Moluccas). — Day, Fishes of Malabar,
p. 59, 1865; Fishes of India, pt. 2,
p. 177, pl. 42, fig. 5, 1876; Fauna
British India, Fishes, vol. 2, p. 103,

over eye runs above lateral line to
caudal peduncle as black stripe;
third black lateral stripe crosses
chin and runs backward under eye
and through base of pectoral to
bases of lower caudal rays; intervals
between dark stripes and lower
surface of body clouded white; on
head intervals bright yellow and
area behind eye running back
far as second dorsal with yellow.
Spinous dorsal hyaline. Soft dorsal
slightly dusky in front. Caudal dusky,
stripes of sides broken into dots at
base of fin. Other fins dusky or hyaline.

8071. Sacol Island, September 9, 1909.
Length 77 mm.

21410. Tutu Bay, Jolo Island, first
anchorage. September 19, 1909. Length
77 mm.

1889. — Duncker, Mitteil. Naturh. Mus. Hamburg, vol. 21, p. 155, 1903 (1904) (compiled). — Weber and Beaufort, Fish. Indo Austral. Archip., vol. 4, p. 212, 1922 (Batavia, Tandjung Priok, ^{Fowler, Journ. Bombay Nat. Hist. Soc., vol. 30, no. 2, p. 315, June 25, 1945 (Collected)} Balispapan, Borneo). — Duncker and Mohr, Mitteil. Naturh. Mus. Hamburg, vol. 42, p. 130, 1926 (Rein Bay, New Pomerania).

Trichidion heptadactylus Gill, Proc. Acad. Nat. Sci. Philadelphia, 1861, p. 275 (reference).

Trichidion heptadactylum Jordan and Starks, Ann. Carnegie Mus., vol. 11, p. 455, 1917.

Polydactylus heptadactylus Fowler, Mem. Bishop Mus., vol. 10, p. 131, 1928 (compiled).

side of snout, through eye and back over median axis of body to caudal base medianly. Fourth dark band from lower anterior face of mandible, over infraorbital back to pectoral base and then back to middle of lower caudal lobe. Caudal base with a few irregular blackish spots of small size. Fins otherwise all pale to whitish.

Philippines and East Indies. Only known from the materials listed here.

15773 [S. 1916]. Sacol Island, east of Zamboanga. September 9, 1909. Length 80 mm. (Type, No. 70252, U. S. N. M.) Dusky median dorsal stripe, probably black in life; dusky stripe across snout continued behind eye as median lateral jet black stripe; branch

Depth $3\frac{1}{8}$; head 3 , width $2\frac{1}{4}$
to $2\frac{3}{5}$. Snout 5 to $5\frac{1}{2}$ in head;
eye $4\frac{1}{6}$ to $4\frac{1}{5}$, greater than
snout, subequal with interorbital;
maxillary ~~from snout tip~~ with
expansion $1\frac{3}{5}$ to $1\frac{3}{4}$ in eye,
length from snout tip $1\frac{2}{3}$ to $1\frac{3}{4}$ in
head; teeth fine, uniform, uniserial
in jaws; similar short transverse
row across vomer; band of
minute fine teeth on each
pterygoid; interorbital 4,
convexly elevated, with median
depression; hind preopercle
edge serrated, with spine below
at angle. Gill rakers 21 + 21,
finely lanceolate, $1\frac{1}{5}$ in eye;
gill filaments $\frac{3}{5}$ gill rakers.
Scales 45 in lateral line

Depth $2\frac{3}{4}$ to $3\frac{1}{4}$; head $2\frac{2}{5}$ to $2\frac{1}{2}$, width $2\frac{1}{5}$ to $2\frac{1}{2}$. Snout 4 to $4\frac{4}{5}$ in head from snout tip; eye $3\frac{1}{3}$ to $3\frac{3}{5}$, subequal with snout or greater in young, always greater than interorbital; maxillary reaches $\frac{2}{5}$ to $\frac{3}{5}$ in eye, expansion 2, length 2 in head; teeth villiform, in bands in jaws, on vomer and palatines; interorbital $4\frac{1}{3}$ to 5, nearly level; preopercle ridge entire and edge finely denticulate. Gill rakers 8+18, lanceolate, greatly longer than gill filaments or $2\frac{1}{5}$ in eye.

Scales 25 in lateral line to caudal base and 3 more on latter, 2 above, 6 below, 6 predorsal, 2 rows on cheek; head naked, except cheeks and opercles.

to caudal base and 16 to 18 more on latter; 6 above, 9 or 10 below, 24 to 28 predorsal. Scales with 6 or 7 basal radiating striae; 51 or 52 apical denticles, with basal elements in 8 or 9 series; circuli fine.

D. VIII - I, 12, third spine $1\frac{2}{5}$ to $1\frac{1}{2}$ in head, first branched ray $1\frac{2}{5}$ to $1\frac{3}{5}$; A. III, 11, third spine $3\frac{2}{5}$ to $3\frac{1}{2}$, first branched ray $1\frac{3}{5}$ to $1\frac{4}{5}$; least depth of caudal peduncle $2\frac{1}{10}$ to $2\frac{2}{8}$; pectoral $1\frac{1}{10}$, filaments 7, reach soft anal origin; ventral rays I, , fin $1\frac{2}{5}$ to $1\frac{3}{4}$ in head; caudal long, deeply forked, $2\frac{1}{3}$ to $2\frac{1}{2}$ to caudal base.

Back olive brown, sides and below pale to whitish. Pectoral

1906, p. 527 (Japan). — Jordan and
~~Hubbs~~, Mem. Carnegie Mus., vol. 10, no. 2,
 1925, p. 230 (Wakanoura and Misaki).

Amia semilineata Snyder, Proc. U.S.
 Nat. Mus., vol. 42, 1912, p. 412 (Misaki
 and Shimizu). — Jordan and Thompson,
 Mem. Carnegie Mus., vol. 6, no. 4, 1914, p.
 247, fig. 19 (Shimonoseki and Osaka).

→ Apozon quadrifasciatus (non Cuvier)
Jordan and Snyder, Proc. U.S. Nat. Mus.,
 vol. 23, 1900, p. 353. Yokohama (lapsus
 for Apozon semilineatus).

[Amia semilineatus Seale, Philippine Journ.
 Sci., vol. 9, 1914, p. 64 (Hong Kong).

neutral slate blue, filaments
white. Fins all more or less
dusky terminally. Iris silvery.
Snout whitish. Inside gill
opening dusky.

India, Ceylon, Malaya, East
Indies, Melanesia.

Amia semilineata (Schlegel)

Apogeton semilineatus Schlegel, Fauna
 Japonica, Poiss., pt. 1, 1842, p. 4, pl. 2, fig.
 3. Japan. — Richardson, Ichth. China
 Jap., 1846, p. 221 (copied). — Bleeker, Verhand.
 Batavia. Genootsch., no. 4, vol. 26, 18
 ,
 p. 55, pl. 1, fig. 2 (Nagasaki). — Günther,
 Cat. Fishes Brit. Mus., vol. 1, 1859, p. 240
 (copied). — Károli, Termesz. Füzetek,
 Budapest, vol. 5, 1882, p. 152 (Nagasaki
 and Kobe). — Steindachner and Döderlein,
 Denks^{chr.}. Akad. Wiss. Wien, vol. 47, 1883,
 p. 2 (Tokyo). — Hystrom, Svensk. Vet.
 Akad. Handl., 1887, p. 8 (Nagasaki). —
Ishikawa and Matsura, Prelim. Cat.
 Fishes Tokyo, 1897, p. 55. — Jordan
 and Snyder, Proc. U. S. Nat. Mus., vol. 23,
 1901, p. 903, fig. 7 (Tokyo, Yokohama,
 Yodomi, Enoshima, Misaki, Wakamura).
 — Fowler, Proc. Acad. Nat. Sci. Phila.,

2873

A. N. S. P., three examples. Calicut,
India. 1922. James Hornell.
Length 96 to 103 mm.

4397 [D. 5134]. Balukbaluk Island,
59° W., 6.25 miles ($6^{\circ}44'45''$ N., 121°
 $48'$ E.), Sulu Archipelago near
Basilan Island. In 25 fathoms.
February 7, 1908. Length 80 mm.

5 examples [D. 5360]. Corregidor
Light, N. 74° W. 6.9 miles ($14^{\circ}21'$ N.,
 $120^{\circ}41'$ E.), Manila Bay, Luzon. In
12 fathoms. February 7, 1909. Length 55
to 68 mm.

35 examples [D. 5143]. Jolo Light, S. 50° W.,
3.4 miles ($6^{\circ}05'50''$ N., $121^{\circ}02'15''$ E.),
vicinity Jolo. In 19 fathoms. February 15,
1908. Length 68 to 92 mm. Also type no.
U. S. N. M.

2874

Polydactylus hexanemus (Cuvier)

Polynemus hexanemus Cuvier, Hist. Nat. Poiss., vol. 3, p. 389, 1829 (type locality, Batavia). — Bleeker, Verh. Batavia. Genoot. (Perc.), vol. 22, p. 59, 1849 (Batavia; Samarang; Pasuruan). — Cantor, Journ. Asiatic Soc. Bengal, vol. 18, pt. 2, p. 1015, 1849 (1850) (Pinang Sea). — Bleeker, Nat. Tijds. Ned. Indië, vol. 7, p. 311, 1854 (Amoy). — Günther, Cat. Fish. Brit. Mus., vol. 2, p. 325, 1860 (Malay Peninsula). — Kner, Reise Novara, Fische, p. 136, 1865 (Java). — Duncker, Mitteil. naturh. Mus. Hamburg, vol. 21, p. 155, 1903 (1904) (compiled). — Weber and Beaufort, Fish. Indo Austral. Archip., vol. 4, p. 207, 1922 (Bleeker's specimen).

Lateral line of simple tubes, well exposed and each with small basal scale. ^{Scales with} 15 or 16 basal radiating striae; 56 to 70 apical denticles, in 3 or 4 transverse series; ~~and~~ circuli fine.

D. VI - I, 9, I, third spine $2\frac{2}{5}$ to $2\frac{3}{5}$ in head, first ray $1\frac{1}{2}$ to 2; A. II, 8, I, second spine $3\frac{3}{5}$ to $3\frac{3}{4}$, first ray 2 to $2\frac{1}{5}$; caudal $1\frac{2}{5}$ to $1\frac{1}{2}$, emarginate behind; least depth of caudal peduncle $2\frac{7}{8}$ to 3; pectoral $2\frac{1}{4}$; ventral $1\frac{7}{8}$ to 2.

General color whitish. Blackish brown band begins at occiput, divides and extends along each side close along dorsal base to white behind soft dorsal, then extends to caudal. Second dark band begins over eye and extends to base of upper caudal lobe. Third dark band runs along

Trichidion hexanemus ^{Gill}~~Günther~~, Proc.
Acad. Nat. Sci. Philadelphia,
1861, p. 275 (reference).

Depth $3\frac{1}{5}$ to $4\frac{1}{5}$ in length with
caudal; head $3\frac{4}{5}$ to $4\frac{9}{10}$. Eye
nearly $3\frac{4}{5}$, greater than snout,
equals interorbital; upper lip
scarcely developed, lower well
developed; mouth large, reaches
far behind eye; maxillary less
than 2 in head; narrow villiform
band of teeth in both jaws,
constricted anteriorly; narrow
band of small teeth on head of
vomer; preopercle edge rather
coarsely serrated, broader spine
just before angle, which

Depth $3\frac{3}{4}$ to 4; head $2\frac{1}{2}$ to $2\frac{3}{5}$, width $2\frac{2}{5}$. Snout $3\frac{7}{8}$ to 4 in head; eye $3\frac{1}{2}$, greater than snout or interorbital; maxillary reaches opposite hind pupil edge, expansion 2 in eye, length 2 in head; teeth in villiform bands in jaws, on vomer and palatines and row of irregular enlarged outer teeth in jaws; interorbital $5\frac{1}{4}$ to $5\frac{3}{5}$, level; preopercle ridge and edge entire. Gill rakers 4 + 14, finely spinescent, lanceolate, equal gill filaments or $3\frac{1}{5}$ in eye.

Scales 24 in lateral line to caudal base and 2 more on latter, 2 above, 6 below, 7 predorsal, 2 or 3 rows on cheek; head verrucose on interorbital and cranium and naked, except on cheeks and opercles.

rounded and produced; ²⁸⁷⁶
short spine at beginning of
lateral line.

Scales 47 or 48 in lateral
line; 5 above, 10 below. ^{vertical fin scaly.} Soft
Scales finely striated and
serrated along hind edges.

D. VIII — I, 12, first dorsal
origin between pectorals and
ventrals, first spine minute,
second strongest but shorter
than third and equals postocular,
second dorsal origin well before
anal origin; A. III, 14, first
two spines very small; caudal
deeply forked; pectoral 14 + 6,
curved, all rays simple, longer
than head, fourth filament
longest and nearly or quite reaches
caudal base; ventral I, 5,

slightly longer than postorbital.

Golden or silvery, brownish
above. Fins yellowish. Length
150 mm. (Weber and Beaufort.)

Malaya, East Indies.

Polydactylus indicus (Shaw)

2897

Polynemus indicus Shaw, General Zool., vol. 5, pt. 1, p. 155, 1804 (on Maga-booshee Russell, Fishes of Coromandel, vol. 2, p. 68, pl. 184, 1803, type locality, Vizagapatam). — Swanson, Nat. Hist. Animals, vol. 2, p. 234, 1838 (on Russell). — McClelland, Calcutta Journ. Nat. Hist., vol. 3, pp. 173, 179, pl. 6, 1842.

— Cantor, Journ. Asiatic. Soc. Bengal, vol. 2, p. 326, 1860 (India, Bengal Bay, Calcutta, Pinang Sea, Syst. vol. 18, pt. 2, p. 1011, 1849 (1850) (Pinang Sea, Singapore, Malay Peninsula). — Bleeker, Verh. Batavia. Genoot. (hal. Ichth. Bengal), vol. 25, p. 34, 1853 (reference); Nat. Tijds. Ned. Indië, vol. 7, p. 427, 1854 (Batavia,

Subgenus Cheilodipterus Lacépède

Four to 9 or more dark longitudinal bands. Usually dark, round, basal caudal spot present.

2878

Surabaya); vol. 9, p. 394, 1855
(North Pasuruan); vol. 11, p. 418,
1856 (Muntok, Bangka). — Günther,
Cat. Fish. Brit. Mus., vol. 2, p. 326,
1860 (India, Bengal Bay, Calcutta,
Pinang Sea, Sydney). — Bleeker,
Verslag. Akad. Wet. Amsterdam,
vol. 12, p. 64, 1861 (Pinang). — Day,
Fishes of Malabar, p. 60, 1865. —
Kner, Reise Novara, Fische, p. 137, pl.
7, fig. 1 (air bladder), 1865 (Madras).
— Peters, Monatsber. Akad. Wiss.
Berlin, p. 439, 1876 (Mauritius). —
Day, Fishes of India, pt. 2, p. 179,
1876. — Castelnau, Proc. Linn. Soc. New
South Wales, vol. 3, p. 351¹⁸⁷⁸ (Port
Jackson). — Peters, Trans. Roy. Soc.

washed with yellow, other fins
dusky hyaline.

2879

Arts Sci. Mauritius, new ser., vol.
1, p. 52, 1883 (Mauritius). — Meyer,
An. Soc. Españ. Hist. Nat. Madrid,
vol. 14, p. 23, 1885 (North Celebes).
— Day, Fauna Brit. India, Fishes,
vol. 2, p. 105, 1889. — Vinciguerra,
Ann. Mus. Civ. Stor. Nat. Genova,
vol. 29, p. 168, 1889 (Rangoon). —
Kent, Great Barrier Reef, p. , 1893
(Queensland). — Duncker, Mitteil.
Naturh. Mus. Hamburg, vol. 21, p.
55, 1903 (1904) (Klang; Kuala
Selangor). — Weber and Beaufort,
Fishes Indo Austral. Archip., vol.
4, p. 205, 1922 (Mias). — Vinciguerra,
Ann. Mus. Civ. Stor. Nat. Genova,
ser. 3, vol. 10, p. 595, 1921-26 (Borneo).

lateral dark line, extends along back on each side of dorsal fins from snout to tail. Obsolete similar line medially from nape to second dorsal. In nape, between dark lines, spaces decided lavender metallic green and same spaces between nape and first dorsal purplish metallic. Two dorsal lines converge before eyes and become deep violet, remainder of snout dusky with wash of yellow. Region between prominent dark line along side and first dorsal line (above) light metallic green, becoming metallic violet on upper part of opercle. First dorsal and ventrals

— McCulloch and Whitley, Mem.
Queensland Mus., vol. 8, pt. 2, p.
July 7, 1925 (reference). —
McCulloch, Mem. Austral. Mus.,
no. 8, pt. 1, p. 119, June 29, 1929
(reference). — Hardenberg, Treubia,
vol. 13, livr. 1, p. 124, July 1931
(Rokan River mouth, Sumatra).

Trichidion indicus Gill, Proc. Acad.
Nat. Sci. Philadelphia, 1861, p. 276
(reference). — Bleeker, Verslag.
Akad. Wet. Amsterdam, ser. 2,
vol. 2, p. 293, 1868 (Rio, Bintang).
— Fowler, Proc. Acad. Nat. Sci.
Philadelphia, vol. 57, p. 501, 1905
(Baram, Borneo).

968. Endeavor Strait, north-west coast
of Palawan. December 22, 1908. Length
60 mm. Dusky appearance on body

~~982. Ulugan Bay, Rita Island,~~
~~Palawan. Decem~~ given by numerous
fine dark dots on scales. Upper
lip over premaxillaries violet.
Blackish line from snout through
eye across opercle and along side
of tail; on side below blackish
line narrow metallic light green
line half as wide. Region on body
below these two lines and chin
dusky yellow, on opercle and on iris
under pupil bright yellow. Blackish
line, narrower and fainter than median

Trichidion indicum Bleeker, Verslag.
Akad. Wet. Amsterdam, ser. 2, vol. 2,
p. 300, 1868 (Wageningen).

Polydactylus indicus Fowler, Mem.
Bishop Mus., vol. 10, p. 131, 1928
(compiled).

predorsal with slight median ridge;
^{1 or} 2 rows of cheek scales to preopercle
 ridge at angle; muzzle, including
 interorbital, maxillary and suborbitals,
 naked; median lateral scales deeply
 and narrowly imbricated. ^{scales with} $\frac{18}{2}$ to 15 basal
 radiating striae; $\frac{18}{2}$ to 88 small weak
 apical denticles, with 2 or 3 transverse
 series of basal elements; ~~not~~ circuli fine.

D. VI - I, 9, I, third spine $2\frac{1}{8}$ to $2\frac{2}{3}$ in
 total head length, first ray $1\frac{1}{2}$ to $1\frac{2}{3}$;
 A. II, ³15, I to 17, I, ₂ second spine $2\frac{1}{2}$ to $2\frac{3}{4}$,
 first ray $1\frac{2}{3}$ to $\times \frac{3}{4}$; caudal $1\frac{1}{6}$ to $1\frac{1}{4}$,
 hind edge slightly emarginate; least
 depth of caudal peduncle $2\frac{1}{5}$ to $2\frac{1}{4}$;
 pectoral $1\frac{1}{5}$ to $1\frac{1}{3}$; ventral $1\frac{3}{4}$ to $\times \frac{2}{4}$.

Pale brown generally, little paler
 below, sides and below with silvery
 and pale lilac tints. Entire side of

Polynemus sele Buchanan-Hamilton,
Fishes of Ganges, pp. 226, 381, 1822
(type locality, Ganges estuaries).

— Mc Clelland, Journ. Asiatic Soc.
Bengal, vol. 8, p. 203, pl. , 1839

— Cantor, Proc. Zool. Soc. London,
p. , 18

— Mc Clelland, Calcutta Journ. Nat.
Hist., vol. 2, p. 450, 1842;
vol. 3, pp. 179, 181, pl. 6, 1843.

Polynemus wronemus Cuvier, Hist. Nat.
Poiss., vol. 3, p. 385, April 1829 (type
locality, Adrian Coupang River mouth,
Pondicherry). — Bleeker, Verh. Batavia
Genoot. (Perc.), vol. 22, p. (25) 58,
1849 (Surabaya); (Madura), vol.
22, p. 4, 1849 (Lamongan).

Back rich brown leaving pale dorsal line along upper edge of back from interorbital to soft dorsal. Well defined median blackish brown band from snout through eye and back to caudal base medianly though little low along side of caudal peduncle, ending in point at caudal base. Iris, except as crossed by dark band, silvery white. Fins all pale uniform brownish. Upper and lower edges of caudal narrowly darker brown than rest of fin.

Only known from the type and paratype listed below.

982. Ulugan Bay, Rita Island, Palawan.
December 29, 1908. Length 65 mm. Type no.
70253 U. S. N. M.

Polynemus plotus O'Reilly, Calcutta
Journ. Nat. Hist., vol. 2, p. 450, 1842
(no type locality [= India]); vol. 3,
p. 179, 1843.

Polynemus lineatus (not Lacépède)
McClelland, Calcutta Journ. Nat.
Hist., vol. 3, p. 179, 1843.

Polynemus gelatinosus McClelland,
Calcutta Journ. Nat. Hist., vol. 3, p.
181, 1843 (type locality,

Polynemus plebejus (not Broussonet)
Calcutta Journ. Nat. Hist., vol. 3, p.
179, 1843.

Scales 24 in lateral line to caudal base and 3 more on latter, 2 above, 6 below, 6 predorsal, 2 rows on cheeks; head scaly, except cheeks and opercles, upper surface venulose. Tubes in lateral line large, well exposed, with small basal scale to each tube but little exposed. ^{scales with} 10 or 11 basal radiating striae; 50 to 52 apical denticles, with 5 transverse series of basal elements; ~~under~~ circuli fine.

D. VI - I, 8, I, second spine $2\frac{1}{8}$ to $2\frac{1}{3}$ in total head length, first ray 2 to $2\frac{1}{5}$; A. II, 8, I, second spine $4\frac{3}{5}$?, first ray $2\frac{1}{8}$ to $2\frac{1}{5}$; caudal $1\frac{1}{6}$?, emarginate behind; least depth of caudal peduncle $2\frac{7}{8}$ to $3\frac{1}{10}$; pectoral $2\frac{1}{10}$ to $2\frac{2}{5}$; ventral $1\frac{3}{4}$ to 2.

lower and last precaudal more distant from third.

(To Prof. William A. Bryan, who studied fishes in Oceania, ^{and} now Director of the Los Angeles Museum of Science and Art.)

Diaphus dehaveni, new species. Figure 74.

Depth $4\frac{1}{4}$; head $3\frac{4}{5}$, width 2. Snout $7\frac{2}{5}$ in head; eye $3\frac{4}{5}$, over twice snout, $1\frac{1}{5}$ in interorbital; maxillary ~~length~~ diameter behind eye. length

Axillary ventral scale $4\frac{2}{3}$ in fin. Few scales on caudal base.

Antorbital luminous organ narrowly along front eye edge, most extensive below and above, and with superior marginal orbital photophore; 2 operculars, upper larger and in line with lower eye edge and upper or second subpectoral, lower veiled behind hind end of maxillary; 3 equidistant

(2 *Polydactylus indicus*)

1st - Baran h-Banded -
"Furness Collection". L - $2\frac{1}{2}$ inches.

0 *Polydactylus indicus* (Shaw)

* *Trichodon indicus* Fowler

P. A. 57, 1905, 501 (Baran)

D. $4\frac{2}{3}$ h. $3\frac{1}{4}$ w. $1\frac{7}{8}$

A. $4\frac{2}{3}$ - m h.; eye 8,

max. $2\frac{1}{10}$ m h.

i. 4.

Sc. 70 + ; 7 ad. ~~2~~ 10 below, 36?
pred.

D. VIII - 1, 13, 1st sp. $1\frac{4}{7}$ m h., 1st
r. $1\frac{2}{3}$; A. III, 12, 1st 3rd sp. $3\frac{4}{7}$,
1st r. 2; l. d. $3\frac{1}{4}$; P. $1\frac{1}{2}$, rays
II, 11, 5,
V. $2\frac{1}{3}$, rays 1, 5.

2884

2896

Polydactylus microstoma (Bleeker)

Polynemus microstoma Bleeker,
Nat. Tijds. hed. Indië, vol. 2, p. (210)
217, 1851 (type locality, Boeloekomba,
Celebes); vol. 3, p. 690, 1852 (Wahai);
vol. 8, p. 392, 1855 (Amboina); vol.
12, p. 293, 1856 (Boeling, Bali);
Act. Soc. Sci. Ind. Néerl., vol. 2,
no. 7, p. 3, 1857 (Amboina); Nat.
Tijds. hed. Indië, vol. 17, p. 142,
1858-59 (Boeling); Nat. Tijds.
hed. Indië, vol. 19, p. 435, 1859
(Sumbawa).

[D. 5388.] 3778 to 3780. Bagatao Island.
Light (outer), S. 86° E., 2.1 miles ($12^{\circ} 54'$
 $30''$ N., $123^{\circ} 26' 15''$ E.). March 11, 1909.

Length 130 to 156 mm. (No. 3779 is type,
No. 70255 U. S. N. M., 156 mm.)

[D. 5508.] 2364. Camp Overton Light,
Iligan Bay, S. 6° E., 4.9 miles,
northern Mindanao ($8^{\circ} 17' 24''$ N., 124°
 $11' 42''$ E.). August 5, 1909. Length 105 mm.

51601 U. S. N. M. Hawaii. Albatross
Collection. Type of Hymnodus atherinoides
Gilbert. Length 113 mm.

2897

Polynemus microstomus Weber and
Beaufort, Fishes Indo Austral.
Archip., vol. 4, p. 204, 1922 (north
of Rionu Strait; Bima; Saleyer;
Lombok).

Trichidion microstomus Gill, Proc.
Acad. Nat. Sci. Philadelphia, 1861,
p. 276 (reference).

Trichidion microstoma Bleeker, Arch.
Néerl. Sci. Nat. Harlem, vol. 13, p. 64,
⁽³⁸⁾
pl. 2, fig. 5
1878 (New Guinea).

Polydactylus microstomus Fowler,
Mem. Bishop Mus., vol. 10, p. 130, 1928
(compiled).

the Philippine fish. In some respects Gilbert's figure has been incorrectly idealized as the broken rays, compared with Philippine examples, show they are in agreement.

Polynemus plebejus (nat Broussonet)
Cuvier, Hist. Nat. Poiss., vol. 3, p.
 380, 1829 (part). — Cantor, Journ.
 Asiatic Soc. Bengal, vol. 18, pt. 2,
 p. 1009, 1849 (1850) (Penang Sea). —
Günther, Cat. Fish. Brit. Mus., vol.
 2, p. 329, 1860 (Amboyna; Malay
 Peninsula).

Polynemus zophomus Jordan and
McGregor, Proc. U. S. Nat. Mus.,
 vol. 30, p. 814, 1906 (name on
Polynemus plebejus Günther 1860).

— Weber, Siboga Exped., vol. 57,
 Fische, p. 142, pl. 3, figs. 4-5,
 1913 (Bima; Saleyer).

more or less sprinkled with deep ^{mostly} brown or dusky dots, ~~adverse~~ [^] marginal. Head and fins all more or less with dusky so whole appearance ~~soiled~~ or dark. Iris and inside gill opening dusky to blackish. Gill covers with dusky silvery or neutral tints, blue tinge in opercle.

Philippines, Hawaii. We have compared the type with the materials of Smith and Radcliffe of their Hymnodus megalops and are unable to separate them. Their contention that Gilbert's fish "is slenderer, has a shorter head, snout and maxillary, and a slenderer caudal peduncle" are simply minor discrepancies of portraiture and should never have been credited as specific distinctions! There are absolutely no grounds for separating

Polydactylus gophomus Jordan
and Seale, Bull. U. S. Fish
Comm., vol. 26, p. 11, fig. 4, 1906
(1907) (type locality, Cavite, Luzon).
— Jordan and Richardson, Bull.
U. S. Fish Comm., vol. 27, p. 245,
1907 (1908) (Manila; Iloilo). —
Seale, Philippine Journ. Sci., vol.
5, no. 4, p. 269, 1910 (Sandakan).

4 above, 7 below, 7 or 8 predorsal to occiput and 22 to end of snout; row of scales along very narrow cheek below eye; Tubercles in lateral line slender, each bifid and diverge; most fins more or less scaly, at least basally, except spinous dorsal, caudal largely covered ^{scales with} 12 to 15 basal radiating striae; 49 to 70 apical denticles in 5 to 7 transverse series; ~~marked~~ circuli fine.

D. VII — I, 10, II, third spine 2 to $2\frac{1}{3}$ in total head length, first branched ray $1\frac{4}{5}$ to $2\frac{1}{3}$; A. II, 9, III, second spine 5 to 6, first branched ray $2\frac{1}{5}$ to $2\frac{2}{5}$; caudal $1\frac{1}{5}$ to $1\frac{2}{3}$, forked, lobes pointed; least depth of caudal peduncle $3\frac{1}{8}$ to 4; pectoral $2\frac{1}{5}$ to $2\frac{2}{3}$; ventral $1\frac{7}{8}$ to $2\frac{2}{5}$.

Body generally ~~up to~~ brown, scales all ~~the~~

2885

Polydactylus kuru (Bleeker)

Polynemus kuru Bleeker, Nat. Tijds.
Ned. Indië, vol. 4, p. (596) 601, 1853
(type locality, Ternate); vol. 6, p.
50, 1854 (Sindangole, Halmaheira);
vol. 10, p. 469, 1856 (Saparoea);
Act. Soc. Sci. Ind. Néerl., vol. 1, no.
5, p. 4, 1856 (Amboina); vol. 2, no.
7, p. 3, 1857 (Amboina). — Weber,
Siboga Exped., vol. 57, Fische, p. 141,
1913 (Biaru; Lirung). — Weber and
Beaufort, Fishes Indo Austral.
Archip., vol. 4, p. 209, 1922 (Sangir;
Talang; Aru). — Giltay, Mem.
Mus. Roy. Hist. Nat. Belge, vol. 5,
pt. 3, p. 111, April 30, 1933
(Manfield Island).

Depth 4 to $4\frac{1}{3}$; head $2\frac{3}{5}$ to $2\frac{4}{5}$, width $2\frac{1}{5}$ to $2\frac{1}{3}$. Snout $4\frac{1}{8}$ to $4\frac{2}{5}$ in head from snout tip; eye $3\frac{2}{5}$ to $3\frac{1}{2}$, greater than snout or interorbital; maxillary reaches $\frac{7}{8}$ in eye, expansion 2 to $2\frac{1}{10}$ in eye, length $1\frac{9}{10}$ to 2; teeth in villiform bands in jaws, on vomer and palatines and outer series of about 8 anteriorly above as slightly canine like; small canine each side of mandible; another each side of vomer and row of outer enlarged mandibular laterals, posteriorly largest; interorbital 5, nearly level or only slightly depressed; preopercle ridge and edge entire. Gill rakers 5 + 15, lanceolate, equal gill filaments or $\frac{1}{4}$ in eye, also some as rudiments.

Trichidion kuru Gill, Proc. Acad.
Nat. Sci. Philadelphia, 1861, p. 275
(reference). — Bleeker, Ned. Tijds.
Dierk., vol. 1, p. 240, ~~1863~~ (Obi);
p. 156, 1863 (Sindangob, Halmahera);
Verslag. Akad. Wet. Amsterdam, vol.
16, p. 360, 1864 (Saparoua).

Polydactylus kuru Kendall and
Goldsbrough, Mem. Mus. Comp. Zool.,
vol. 26, no. 7, p. 263, 1911 (Mukuhwa).

Cheilodipterus zonatus Smith and Radcliffe.
Cheilodipterus zonatus Smith and Radcliffe,
Proc. U. S. Nat. Mus., vol. 41, 1912, p. 443, pl.
38, fig. 1. South Rita Island and Endeavor
Strait, Palawan.

2887

Depth 3 ; head $3\frac{2}{5}$, width $2\frac{1}{8}$.
Snout $5\frac{1}{5}$ in head; eye $4\frac{1}{5}$,
greater than snout, $1\frac{1}{4}$ in
interorbital; maxillary reaches
half an eye diameter behind
eye, expansion 2 in eye, length
 $2\frac{1}{10}$ in head; teeth in rather
narrow villiform bands in pairs,
5 or 6 ^{teeth} transversely; small narrow
band of villiform teeth on vomer,
broader large band on each
palatine; interorbital $3\frac{1}{4}$,
convex. Gill rakers 13 + 16,
slender, lanceolate, $1\frac{1}{3}$ in eye;
gill filaments $\frac{4}{5}$ of gill rakers.

Scales 62 in lateral line
to caudal base; 8 above, 12 below,
33 predorsal of which 23 forward
opposite hind eye edge. Fins
all more or less finely and closely
scaled. Scales with ~~6~~ ^{radiating} ~~parallel~~

2888

basal striae; 94 minute apical denticles, with 18 transverse series of basal elements; circuli very fine.

D. VIII - I, 13, I, third spine $1\frac{1}{2}$ in head, first branched ray $1\frac{1}{5}$; A. II, 11, I, second spine $3\frac{2}{5}$, first branched ray $1\frac{1}{2}$; least depth of caudal peduncle 2; pectoral $1\frac{2}{5}$, rays I, 14 + 6, all rays simple, longest filaments reaching but slightly behind end of depressed pectoral; ventral rays I, 5, fin $1\frac{2}{3}$ in head; caudal $2\frac{2}{5}$ in rest of fish.

Brown on back and head above, sides and below silvery white. Along each row of scales on body, at scale junctures, narrow, dark brown contrasted band or line. Iris pale. Fins brownish, darker terminally, especially pectoral.

basal striae, close set;

2889

Philippines,
East Indies, ^ Polynesia.

The specimen below differs from Weber and Beaufort's account chiefly in the presence of the dark brown parallel longitudinal bands or lines. Though the upper part of first dorsal is dark brown it is hardly blackish. The specimen is also without dark blotch on opercle.

14655 to 14659. Bolalo Bay, Palawan Island. December 21, 1908. Length 84 to 94 mm.

2 examples. Bolalo Bay. December 21, 1908. Length 34 to 40 mm.

16778. Busin Harbor, Burias Island. November 7, 1909. Length 98 mm.

15816. Butuanan Island. June 12, 1909. Length 95 mm.

23432 and 23433. Butuanan Island. June 13, 1909. Length 84 to 85 mm.

23643 to 23645. Caracaran, Batan Island. June 8, 1909. Length 71 to 88 mm.

3 examples. Caracaran. June 8, 1909. Length 32 to 36 mm.

23995. Cetaingan Bay. April 18, 1908. Length 51 mm.

9397. Zamboanga market,
Zamboanga. September 7, 1909.
Length 310 mm.

~~8773 and 133468. Whittard Island.~~
~~November 26, 1909. Length 100 to 107 mm.~~

23257 and 23258. Mantacao Island,
 west coast of Bohol. April 8, 1908.
 Length 99 to 101 mm. (23258 male
 with buccal ovum.)

15495. Masamat Bay, Duinalasag
 Island. June 12, 1909. Length 88 mm.

23224. Ohol, Mindanao. August 4,
 1909. Length 100 mm.

3 examples. Oyster Inlet, Lubuan
 Bay. December 28, 1908. Length 81 to 87 mm.

11 examples. Philippines. Length 32
 to 96 mm.

8766. Port Janelo, Luzon Island. July 13,
 1908. Length 70 mm.

Polydactylus longipectoralis (Weber
and Beaufort)

Polynemus longipectoralis ^{Weber} ~~Beaufort~~,
and Beaufort, Fishes Indo
Austral. Archip., vol. 4, p. 213,
1922 (type locality, ~~Bandjermassin~~,
Borneo). — Chevey, Rev. Inst.
Océan. Indo Chine, 19^e note, p. 20,
August 25, 1932 (Cambodia).

Desmoamia new subgenus
Type Cheilodipterus zonatus Smith
and Radcliffe.

Single, median, dark, lateral band
and paler parallel band along back.
Caudal without black median
basal spot.

(δεσμος, band, with reference to
the median dark lateral band;
Amia.)

2892

Polydactylus macrochir (Günther)

Polynemus macrochir Günther,
Ann. Mag. Nat. Hist., ser. 3, vol. 20,
p. 60, July 1, 1867 (type locality,
New South Wales).

— Castelnau, Proc. Linn. Soc. New
South Wales, vol. 3, p. 352, 1878
(Port Jackson). — Kent, Great
Barrier Reef, p. , 1893 (Queensland).

— McCulloch and Whitley, Mem.
Queensland Mus., vol. 8, pt. 2, p. 142,
July 7, 1925 (reference). — McCulloch, Mem. Austral. Mus., vol. 5,
pt. 1, p. 119, January 29, 1929
(reference).

interspaces, each of which may have
a dark intermediate parallel line
with bands thus increased to 17.

lineatus

Polydactylus macrophthalmus (Bleeker)

Polynemus macrophthalmus Bleeker,
Act. Soc. Sci. Ind. Néerl., vol. 5, no.
6, p. (2) 10, 1858-59 (type locality,
Palembang, mouth Musi River,
Sumatra). — Weber and Beaufort,
Fishes Indo Austral. Archip., vol.
4, p. 216, 1922 (Batang Hari River,
Sumatra; Buntar, Borneo).

Polynemus borneensis (not Bleeker)
Vaillant, Nouv. Arch. Mus. Hist. Nat.,
Paris, ser. 4, vol. 5, p. 109, 1893.

Analysis of the species.

a.¹ Desmouania new subgenus. Single, median, dark, lateral band and paler parallel band along back; caudal without median dark or black basal spot.

zonatus

a.² Cheilodipterus. Four to 9 or more dark longitudinal bands; usually dark, round, basal, caudal spot.

b.¹ Four black longitudinal bands, slightly narrower than pale interspaces.

nigrotaeniatus

b.² Five dark or black longitudinal bands.

c.¹ Dark longitudinal bands not extending on head and whole coloration without bands contrasted.

singapurensis

c.² Dark lateral bands extending on head and greatly contrasted.

quinque-lineatus

b.³ Seven to 9 dark brown longitudinal bands, slightly narrower than pale

2894

Polydactylus melanocher (Valenciennes)

Polyneurus melanocher Valenciennes,
Hist. nat. Poiss., vol. 7, p. 513, 1831
(type locality, Sumatra). — Bleeker,
Verh. Batavia. Genoot. (Perc.), vol.
22, p. 60, 1849 (Batavia); Nat. Tijds.
red. Indië, vol. 8, p. 345, 1855
(Tikoe, Sumatra); vol. 9, p. 259,
1855 (Sibogha); vol. 12, p. 213, 1856
(Nias); Act. Soc. Sci. Ind. Néerl.,
vol. 3, no. 9, p. 2, 1857-58 (Padang,
Sumatra), p. 3 (Trussan). —
Günther, Cat. Fish. Brit. Mus.,
vol. 2, p. 321, 1860 (compiled). —
Weber and Beaufort, Fishes Indo
Austral. Archipel., vol. 4, p. 211,
1922 (Krawang and Palabuan Batu,
Java).

Body moderately elongate. Eye large. Teeth in villiform bands in jaws, on vomer and palatines, usually some in both jaws enlarged canines. Opercle without spine. Preopercle ridge entire or serrate, edge serrate. Gill rakers 12 to 15 on lower branch of first arch. Branchiostegals 7. Scales large, deciduous, 22 to 24 in lateral line to caudal base. Head scaly. Two separated dorsals, first with 6 spines, second with spine and 8 to 10 rays. Anal with 2 spines and 8 or 9 rays. Caudal emarginate or forked. Coloration usually with dark longitudinal stripes.

Small tropical fishes, differing from Amia chiefly in the presence of canine teeth in the jaws.

Trichidion melanocheir Gill, Proc.
Acad. Nat. Sci. Philadelphia,
1861, p. 275 (reference).

Genus Cheilodipterus Lacépède.

Cheilodipterus Lacépède, Hist. Nat. Poiss., vol. 3, 1802, p. 539. Type Cheilodipterus lineatus Lacépède, designated by Jordan and Evermann, Genera of Fishes, pt. 1, 1917, p. 63.

Chilodipterus Günther, Cat. Fishes Brit. Mus., vol. 1, 1859, p. 248. Type Cheilodipterus lineatus Lacépède.

Paramia Bleeker, Ned. Tijds. Dierk., vol. 1, 1863, p. 233. Type Cheilodipterus lineatus Lacépède. Paramia Bleeker proposed to replace Cheilodipterus Lacépède.

~~Polydactylus multifiles~~ (Schlegel)

Polynemus multifiles Schlegel,
Fauna Japonica, Poiss., pts. 2 to 4,
p. 29, 1843 (type locality, Borneo
[described in footnote]), Bijdr.
Dierk., vol. 1, pt. 4, p. 11, 1851. —

Martens, Preuss. Exped. Ost Asien,
vol. 1, p. 309, 1876 (). —

Vaillant, Bouv. Arch. Mus. Hist.
Nat. Paris, ser. 4, vol. 5, p. 108, 1893

(); — Weber and

Beaufort, Fishes Indo Austral.

Archip., vol. 4, p. 217, 1922 (Djambi,
Sumatra; Beirut, Borneo).

{ — Elera, Cat. Fauna Filipinas, vol. 1,
p. 503, 1895 (Samar; Borongan).

Depth $5\frac{1}{2}$ to $6\frac{1}{4}$; head $2\frac{7}{8}$ to $2\frac{9}{10}$, width $1\frac{3}{4}$ to $1\frac{7}{8}$. Snout $4\frac{1}{4}$ to $4\frac{2}{5}$ in head from snout tip; eye $2\frac{3}{4}$ to $2\frac{4}{5}$, orbital socket $2\frac{1}{6}$ to $2\frac{1}{4}$, eye more than twice snout, about twice bony interorbital and much greater than space as seen between orbital sockets from head below; maxillary extends opposite first fourth or fifth of orbital socket, narrow, length $2\frac{3}{5}$ in head; very narrow band of minute simple curved teeth in each jaw, also similar teeth in single row on vomer and each palatine; interorbital (bony) $4\frac{4}{5}$ to $5\frac{1}{3}$, concave; opercular spine slender, projects beyond gill opening; preopercle ridge entire. Gill rakers 7+17, lanceolate, equal gill filaments or 3 in orbital socket.

Scales 48 or 49 in lateral line to caudal base and 5 to 8 more on latter,

Polistonemus multifilis Gill, Proc.
Acad. Nat. Sci. Philadelphia, 1861,
p. 277 (reference).

Trichidion multifilis Bleeker,
Ned. Tijds. Dierk., vol. 2, p. 174, 1865
(Siam).

Polynemus quaterdecimfiliis Pel,
Bijdr. Dierk., vol. 1, pt. 4, p. 9, 1851
(type locality).

Polynemus polydactylus Bleeker,
Nat. Tijds. Ned. Indië, vol. 3, p. (409)
417, 1852 (type locality, Bandjermassing).

611

Hymnodus atherinoides Gilbert.

Hymnodus atherinoides Gilbert, Bull. U.S. Fish Comm., vol. 23, pt. 2, 1903 (1905), p. 618, pl. 79. Pailolo Channel, Hawaii, in 284 to 290 fathoms.

Hymnodus megalops Smith and Radcliffe, Proc. U.S. Nat. Mus., vol. 41, 1912, p. 445, pl. 38, fig. 3. Between Burias and Luzon and north Mindanao, Philippines (N. Lat. $12^{\circ} 51' 30''$ E. Long. $123^{\circ} 26' 15''$ in 226 fathoms).

Scepterias fragilis Jordan and Jordan, Mem. Carnegie Mus., vol. 10, no. 1, December 1922, p. 45, pl. 2, fig. 2. Honolulu.

2902

Polydactylus multiradiatus (Günther)

Polynemus multiradiatus Günther,
Cat. Fish. Brit. Mus., vol. 2, p. 324,
1860 (type locality, China). — ~~Ward~~,
~~Proc. Linn. Soc. New South Wales~~,
~~vol. 9, p. 1, 1884 (Brisbane River)~~.

— Reeves, Journ. Pan. Pac. Res. Inst.,
vol. 2, no. 3, p. 10, 1927 (China Sea).

— McCulloch and Whitley, Mem.
Queensland Mus., vol. 8, pt. 2, p. ,

July 7, 1925 (reference). — McCulloch,
Austral. Mus. Mem.,
no. 5, pt. 1, p. 119, June 29, 1929
(Queensland). — Chu, Biol. Bull.

St. John's Univ., no. 1, p. 106, January
1931 (reference).

{ — Elera, Cat. Fauna Filipinas, vol. 1,
p. 504, 1895 (Luzon; Manila).

Branchiostegals 7. Scales 48 or 49 in lateral line to caudal base, very deciduous. Tubes in lateral line enlarged, each scale perforated by canal opening on outer surface beneath an antero-posterior bridge, on dorsal and ventral side of which wide external pores. Two wide set, low dorsals, first of 6 or 7 spines, second of spine and 10 rays. Anal with 2 spines and 7 to 9 rays. Caudal forked.

We find nothing in the account of Scepterias to distinguish it from Gymnodus and its genotype was smaller ^(116 mm.) than most of our materials. Parahymnodus is certainly very close to this genus and we think probably synonymous. It is said to differ in the absence of teeth and the pores

2903

Trichidion multiradiatus Gill,
Proc. Acad. Nat. Sci. Philadelphia,
1861, p. 275 (reference). — Bleeker,
Ned. Tijds. Dierk., vol. 4, p. 106,
January 1865 (reference).

Polydactylus multiradiatus Gilby,
Mem. Queensland Mus., vol. 2, p.
81, pl. 21, 1913 (Thursday Island);
vol. 2, p. 91, December 10, 1913
(Wormley Island).

608

Genus Hymnodus Gilbert.

Hymnodus Gilbert, Bull. U.S. Fish Comm., vol. 23, pt. 2, 1903 (1905), p. 617. Type Hymnodus atherinoides Gilbert, monotypic.

Scepterias Jordan and Jordan, Mem. Carnegie Mus., vol. 10, no. 1, December 1922, p. 44. Type Scepterias fragilis Jordan and Jordan, orthotypic.

Parahymnodus Barnard, Ann. South Afric. Mus., vol. 21, 1927, p. 525. Type Parahymnodus robustus Barnard, monotypic.

Body very elongate, slender. Caudal peduncle long. Head large, robust, wider than deep. Eyes very large, over $\frac{1}{3}$ of head. Mouth terminal. Minute teeth in jaws, subequal on vomer and palatines. Opercle with single spine. Pseudobranchial very large. Gills 4, slit behind fourth arch. Gill rakers 14 to 16 on lower branch of first arch.

2904

Polydactylus paradiseus (Linnaeus)

Polynemus paradiseus Linnaeus, Syst. Nat., ed. 10, pt. 1, p. 317, 1758 (type locality, India); ed. 12, pt. 1, p. 522, 1766. — Gmelin, Syst. Nat. Linn., p. 1400, 1789. — Bloch, Naturg. Ausland. Fische, vol. 9, p. 28, pl. 402, 1795 [not Surinam and Antilles]. — Forster, Fauna Indica, p. 16, 1795. — Schneider, Syst. Ichth. Bloch, p. 18, 1801 (India). — Shaw and Nodder, Nat. Miscellany, vol. 12, p. 470, 1801 [not American Seas]. — Lacépède, Hist. Nat. Poiss., vol. 5, pp. 411, 413, 1803 (part) [not Surinam, Antilles, Carolina].

1 example. Imahu Island,
vicinity Bouro Island. December 11,
1909. Length 32 mm.

— Günther, Cat. Fish. Brit. Mus.,
vol. 2, p. 320, 1860 (India, Calcutta,
Ganges, Bengal, Siam). — Day,
Fishes of India, pt. 2, p. 176, pl.
42, fig. 4, 1876; Fauna British
India, Fishes, vol. 2, p. 102, 1889.
— Vinciguerra, Ann. Mus. Civ.
Stor. Nat. Genova, vol. 29, p. 168,
1889 (Rangoon). — Elera, Cat. Fauna
Filipinas, vol. 1, p. 503, 1895 (Luzon,
Cavite, Santa Cruz). — Duncker,
Mitteil. Naturh. Mus. Hamburg,
vol. 21, p. 155, 1903 (1904) (Klang).
— Tirant, Serv. Océan. Pêch.
Indo Chine, p. 169, 1929 (Cochin
China). — Borodin, Bull. Vanderbilt
Marine Mus., vol. 1, art. 3, p. 49,
1930 (Saigon).

horizontal band back over shoulder but not passing beyond first dorsal, margined with brown above and below which often with dark or small blackish spot in each behind level of pectoral origin in vertical. Fins all pale brownish.

Karachi, East Indies, Philippines.

[D. 5360]. Limbong Cove, ~~Corregidor Light, N. 74° W.,~~
6.9 miles (14° 21' N., 120° 41' E.),

Manila Bay. In 12 fathoms.

February 8, 1909. Length 37 to 62 mm.

8 examples.

23326. Simalue Island, north of
Tawi Tawi. September 22, 1909. Length
42 mm.

24018. Intu Bay, Jolo Island.
September 19, 1909. Length 54 mm.

2906

Polynemus paradisiacus Walbaum,
Artedi Pisc., vol. 3, p. 631, 1792
(on Linnaeus).

Trichidion paradiseus Gill, Proc.
Acad. Nat. Sci. Philadelphia, 1861,
p. 274 (reference). — Bleeker, Rés.
Madagascar, Pollen et Van Dam,
pt. 4, p. 78, 1874 (reference).

Scales with 4 or 5 basal radiating striae; 24 to 43 weak, short spical denticles; ~~weak~~ circuli moderate.

D. VI - I, 9, I, third spine $2\frac{1}{4}$ to $2\frac{4}{5}$ in total head length, first ray $1\frac{3}{4}$ to $1\frac{4}{5}$; A. II, 12, I, second spine $3\frac{3}{4}$ to $3\frac{4}{5}$, second ray $2\frac{1}{5}$ to $2\frac{1}{3}$; caudal $1\frac{1}{8}$ to $1\frac{1}{5}$, well forked, lobes slender and pointed; least depth of caudal peduncle $2\frac{7}{8}$ to $3\frac{1}{5}$; pectoral $1\frac{1}{6}$ to $1\frac{1}{5}$; ventral 2 to $2\frac{1}{8}$.

Pale brown generally, with silvery white reflections, especially about head and chest where also pale blue to violet or lilac tints. At snout above brown band given off each side over eye. Broad brown band along side of snout, through eye. On postocular pale or whitish

2907

Polynemus risua Buchanan-Hamilton,
Fishes of Ganges, pp. 228, 381, 1822
(type locality, vicinity of Luckhimpur).

Polynemus aureus Buchanan-Hamilton,
Fishes of Ganges, pp. 232, 381, 1822
(type locality, below Calcutta).

Polynemus toposui Buchanan-Hamilton,
Fishes of Ganges, p. 381, 1822 (type
locality, middle Ganges estuaries).

— Hora, Mem. Indian Mus.,
vol. 9, no. 4, p. 188, pl. 16, fig. 1,
November 1929 (Int. drawing of
Buchanan-Hamilton).

Depth 3 to $3\frac{2}{5}$; head $2\frac{4}{5}$ to $3\frac{1}{5}$, width $2\frac{1}{3}$ to $2\frac{2}{5}$. Snout $4\frac{1}{8}$ to $4\frac{1}{3}$ in head from snout tip; eye $3\frac{1}{4}$ to $3\frac{3}{4}$, greater than snout or interorbital; maxillary reaches $\frac{1}{4}$ to $\frac{1}{5}$ in eye, expansion $2\frac{3}{4}$ to 3, length $2\frac{3}{5}$ to $2\frac{2}{3}$ in head; teeth villiform, in bands in jaws and few weak ones on vomer and palatines indistinctly visible and feeble; interorbital 4 to $4\frac{1}{5}$, very slightly ^{preopercle ridge and edge entire.} convex; Gill rakers 9 + 20, finely lanceolate, twice gill filaments or $\frac{1}{2}$ of eye.

Scales 22 in lateral line to caudal base and 4 more on latter, 2 above, 6 below, 5 predorsal, 2 rows on cheek; head naked, except cheeks and opercles, venulose over suborbitals. Lateral line of rather slender tubes, well exposed.

Polynemus longifilis Cuvier, Hist.
Nat. Poiss., vol. 3, p. 365, 1829 (type
locality, Pondicherry; Ganges
mouth; Manila; Mauritius). —
Bleeker, Nat. Tijds. Ned. Indië,
vol. 1, p. (259) 268, 1850 (Bandjermassing);
vol. 2, pp. 57, 193, 1851 (Bandjermassing);
vol. 3, p. 409, 1852 (Sampit), pp.
(409) 418 (Bandjermassing; Sampit;
Palembang); Verh. Batavia. Genoot.
(Nat. Ichth. Bengal), vol. 25, p. (34)
91, 1853 (Hooghly River, Calcutta).

~~Amia nuda (Regan).~~

^{ichthys}
Apogon, nudus Regan, Journ. Bombay
Nat. Hist., vol. 16, 1905, p. 321, Pl. 3,
fig. 6. Karachi.

Apogonichthys mentalis Evermann and
Seale, Bull. Bur. Fisher., vol. 26, 1906
(1907), p. 74, fig. 10. Bacan, Sorsogon.

2909

Polydactylus pfeifferi (Bleeker)

Polynemus pfeifferi Bleeker, Nat.
Tijds. Ned. Indië, vol. 4, p. 249,
1853 (type locality, Priaman,
Sumatra); Act. Soc. Sci. Ind.
Néerl., vol. 3, no. 9, p. 3, 1857-58
(Trussan, Sumatra). — Weber and
Beaufort, Fishes Indo Austral. Archip.
vol. 4, p. 208, 1922 (Nias). — Giltay,
Mem. Mus. Roy. Hist. Nat. Belge,
vol. 5, pt. 3, p. 111, April 30, 1933
(Mansinam Island, New Guinea;
north of Medan, Sumatra).

Trichidion pfeifferi Gill, Proc. Acad.
Nat. Sci. Philadelphia, 1861, p. 275
(reference).

Archamia

~~Apogonichthys~~ gracilis (Bleeker)

Apogonichthys gracilis Bleeker, Nat. Tijds.
Ned. Indië, vol. 10, 1856, p. 371. Ternate.

— Günther, Cat. Fishes Brit. Mus., vol. 1,
1859, p. 246 (copied). — Károli, Termesz.
Füzetek, Budapest, vol. 5, 1882, p. 152
(Sarangoon, Singapore).

Amia gracilis Bleeker, Atlas Ichth.
Ind. Néerl., vol. 7, 1873-76, p. 112 (Ternate);
vol. 8, 1877-78, pl. (65) 343, fig. 2.

2911

Polydactylus pfeifferi Fowler, Journ.
Acad. Nat. Sci. Philadelphia,
ser. 2, vol. 12, p. 530, pl. 16 ~~at 1904~~
(lower fig.), 1904 (Padang).

? Polynemus diagrammicus Bleeker,
Nat. Geneesk. Arch. Ned. Indië,
vol. 2, pt. 3, p. 527, 1845 (type
locality, Batavia); Verh. Batavia.
Genoot. (Perc.), vol. 22, p. 60, 1849
(Batavia; Samarang).

Polynemus diagrammicus Gill,
Proc. Acad. Nat. Sci. Philadelphia,
1861, p. 275 (reference).

Gomina new subgenus

Type. — Lipogonichthys gracilis Bleeker.

Body slender, depth 3 to $3\frac{2}{5}$.

Dark median longitudinal band
on side of body.

(δεσμος, band, with reference
to the dark median lateral band;
Gomina.)

(ίος, arrow, with reference to the
narrow or slender body; Gomina.)

2912

2913

Polydactylus sealei Jordan and Richardson

Polydactylus sealei Jordan and Richardson,
Philippine Journ. Sci., vol.
7. 16, 1910 (on Seale and Bean).

Polydactylus opercularis (not Gill)
Seale and Bean, Proc. U. S. Nat.
Mus., vol. 33, p. 234^{fig. 4,}, 1907 (type
locality, Zamboanga).

23412 and 23413. Yane Road,
Gilloto Island. December 1, 1909.
Length 71 to 75 mm. ~~Length 71 to 75~~
~~mm.~~ 5-examples.

23449 and 23450. Roworra Island,
Patiente Strait. December 2, 1909.
Length 72 to 80 mm.

4-examples. Labuan Blanda Island,
Patiente Strait. December 14, 1909.
Length 43 to 63 mm.

23797. Makyan Island, November
29, 1909. Length 72 mm.

8400 to 8407. Hokuh, Soo Wan,
Formosa. January 29, 1910. Length
66 to 90 mm.

18420. Kuan Wan, Formosa. January
25, 1910. Length 73 mm.

2914

2915

Polydactylus sexfilis (Cuvier)

Polynemus sexfilis Cuvier, Hist.
Nat. Poiss., vol. 3, p. 387, 1829

(type locality, Mauritius;

Coromandel). — Gunther, Cat.

Fish. Brit. Mus., vol. 2, p. 325,

1860 (copied). — Playfair, Fishes

of Zanzibar, p. 53, 1866

(Zanzibar). — Bleeker, Rés.

Madagascar, Pollen et Van Dam,

pt. 4, p. 79, 1874 (reference). —

[Day, Fishes of India, pt. 2, p. 178,

pl. 43, fig. 1, 1876, Fauna British

India, Fishes, vol. 2, p. 105, 1889.

— Gunther, Journ. Mus. Godeffroy, vol.

4, p. 104, 1875 (Pelew Islands; Society

Islands).

— Günther, Rep. Voy. Challenger, vol. 1,

p. 59, 1880 (Hilo, Hawaii). — Day,

Depth $2\frac{1}{3}$ to $2\frac{3}{4}$; head $2\frac{1}{6}$ to $2\frac{1}{3}$, width $2\frac{1}{2}$ to 3. Snout $4\frac{3}{4}$ to 5 in head from upper jaw tip; eye 3 to $3\frac{1}{5}$, much greater than snout or interorbital; maxillary $\frac{1}{2}$ to $\frac{3}{5}$ in eye, expansion 2, length $1\frac{1}{8}$ to 2; ~~teeth~~ minute, villiform, in narrow bands in jaws and few on vomer and palatines; interorbital 4 to $4\frac{1}{2}$, slightly convex; preopercle ridge entire, edge finely minute. Gill rakers 4 + 15, lanceolate, slender, twice gill filaments or 2 in eye.

Scales 2 ~~2 to~~ 24 in lateral line to caudal base and 3 or 4 more on latter, 2 above, 6 below, 5 predorsal; 2 rows of cheek scales; muzzle, including interorbital, suborbitals and maxillary, naked. Tubes in lateral line well exposed, each with small basal scale.

— Steindachner, Denks. Akad. Wiss.
Wien, math.-naturw. Kl., vol. 70, p.
492, 1901 (Honolulu). — Jordan
and Jordan, Mem. Carnegie Mus.,
vol. 10, no. 1, p. 30, December 1922
(Honolulu).

Depth $2\frac{1}{4}$ to 3; head $2\frac{2}{5}$ to $2\frac{1}{2}$, width $2\frac{1}{8}$ to $2\frac{3}{4}$. Snout $4\frac{1}{4}$ to $4\frac{1}{2}$ in head from snout tip; eye $2\frac{7}{8}$ to $3\frac{1}{4}$, greater than snout or interorbital; maxillary reaches opposite middle of eye ^{to $\frac{1}{5}$} , expansion 2 to $2\frac{1}{2}$ in eye, length $1\frac{7}{8}$ to $2\frac{1}{8}$ in head; teeth minute, villiform, in bands in jaws, also few weak ones in band on vomer and palatines; interorbital $3\frac{3}{5}$ to $4\frac{1}{8}$, slightly convex; preopercle ridges entire, with broad short spine at angle, hind edge entire and lower edge and around angle finely denticulate. Gill rakers ^{or 4} $3_1 + 16$, with 2 or 3 rudimentary tubercles also above and below; length greater than gill filaments or 2 in eye.

Scales $2\frac{2}{3}$ ^{or 2} to 24 in lateral line to caudal base and 3 or 4 more on latter, 2_1 ^{or 3} above, 6 or 7 below, 5 or 6

Polydactylus sexfilis Seale, Ocas.
Pap. Bishop Mus., vol. 1, no. 3, p.
 67, 1900 (1901) (Guam); vol. 1, no.
 5, pp. 15, 16, 1902 (Hilo; Honolulu).
 — Jenkins, Bull. U. S. Fish Comm.,
 vol. 22, p. 439, 1902 (1903) (Honolulu).
 — Snyder, Bull. U. S. Fish Comm.,
 vol. 22, p. 523, 1902 (1904) (Honolulu).
 — Jordan and Evermann, Bull. U. S.
Fish Comm., vol. 23, pt. 1, p. 144, 1903
 (1905) (Honolulu; Hilo). — Fowler,
Copeia, no. 112, p. 82, November 20,
 1922 (Hawaii); Bull. Bishop Mus.,
 no. 22, pp. 7¹⁹²⁵ (Guam), p. 25 (Honolulu).
 — Fowler and Ball, Bull. Bishop
Mus., no. 26, p. 11, 1925 (Laysan;
 Lisiansky; French Frigate Shoal).
 — Fowler, Mem. Bishop Mus., vol.
 10, p. 130, pl. 7B, 1928 (Mukohwa;
 Society Islands; Guam; Honolulu).

Archamia macropteroidea Evermann
and Seale, Bull. Bur. Fisher., vol. 26,
1906 (1907), p. 74 (Bacon). — Jordan
and Richardson, Mem. Carnegie Mus., vol.
6, no. 4, 1909, p. 181 (Takao, Formosa). —
Fowler, Proc. Acad. Nat. Sci. Phila., 1927,
p. 274 (Bacon).

Upogon notata (not Sparus notatus Houttuyn)
Day, Proc. Zool. Soc. London, 1867, p. 936.
Madras.

Archamia notata Jordan and Metz, Mem.
Carnegie Mus., vol. 6, no. 4, 1909, p. 181, pl.
69 (Takao, Formosa).

Moulili; Hilo; Laysan; Lisiansky;
French Frigates Shoal; Koko Head;
Laie; Mokuauia; Bonin Islands;
Johnston Island).

~~Apogon macropterus~~ Kuhl & van Hasselt 573
Archamia macroptera Ogilby, Proc. Roy.
Soc. Queensland, vol. 21, 1908, p. 23. (Dunk
Island).

Apogon zeylonicus Cuvier, Hist. Nat. Poiss.,
vol. 3, 1829, p. 491. Ceylon. — Peters, Arch.
Naturges., 1855, p. 234 (Mozambique).

Apogon argentus Valenciennes, Nouv.
Ann. Mus. Hist. Nat. Paris, vol. 1, 1832, p.
60. Vanicolo.

Apogon fucatus Cantor, Cat. Malayan Fishes,
1850, p. 4. Sea of Pinang. — Günther, Cat.
Fishes Brit. Mus., vol. 1, 1859, p. 244 (copied).

Apogon macropteroideus Bleeker, Nat. Tijds.
Ned. Indië, vol. 3, 1852, p. 724. Lepar
Island. — Günther, Cat. Fishes Brit.
Mus., vol. 1, 1859, p. 245 (copied). —

Playfair, Fishes of Zanzibar, 1867, p. 20
(Zanzibar).

2919

Trichidion kuru (not Bleeker 1853)
Bleeker, Verlag. Akad. Wet.
Amsterdam, ser. 2, vol. 2, p. 300,
1868 (Waigiu).

Polynemus kuru Smith and Swain,
Proc. U. S. Nat. Mus., vol. , p. 122, 1882
(Johnston Island).

Polydactylus kuru Kendall and
Goldsborough, Mem. Mus. Comp. Zool.,
vol. 26, p. 263, 1911 (Tukuhua).

Polynemus approximans (not Bennett)
Schmeltz, Cat. Mus. Godeffroy, no. 6, p.
14, 1877 (South Sea).

— Fowler, Bishop Mus. Bull., no. 22,
 1925, p. 32 (Samoa); Proc. Acad. Nat.
 Sci. Phila., 1925, p. 219 (Delagoa Bay);
 1927, p. 274 (Santa Maria and Bacon).
Lipogon macropterus (Kuhlman Van Hasselt)
 Cuvier, Hist. Nat. Poiss., vol. 2, 1828, p. 160.
 Java. — Günther, Cat. Fishes Brit. Mus.,
 vol. 1, 1859, p. 244 (copied). — Day, Fishes
 of India, pt. 1, 1875, p. 64, pl. 17, fig. 4
 (Madras). — Steindachner, Denkschr. Akad.
 Wiss. Wien, vol. 71, pt. 1, 1907, p. 129
 (Gischin, Sokotra). — Pellegrin, Bull.
 Mus. Hist. Nat. Paris, vol. 13, 1907, p.
 204 (Tulear Bay, Madagascar). — Barnard,
 Ann. South Afr. Mus., vol. 21, 1927, p. 516 (Phatal coast, Mozambique).
Amia macroptera Bleeker, Atlas Ichth.
 Ind. Néerl., vol. 7, 1873-76, p. 103 (Sumatra,
 Pinang, Singapore, Banca, Lepar, Java,
 Bawean, Bali, Celebes, Ternate, Halmaheira,
 Batjan, Amboina); vol. 8, 1876-77, pl. (68)
 346, fig. 2.

2920

Trichidion sexfiles Gill, Proc.
Acad. Nat. Sci. Philadelphia,
1861, p. 276 (reference).

Polynemus playfairi Day, Fishes of
India, pt. 2, p. 178, 1876 (type
locality, East coast of Africa;
Malay Archipelago; probably
India).

Polynemus astrolabi Sauvage, Bull.
Soc. Philomath. Paris, ser. 7, vol. 5,
p. 102, 1881 (type locality, Mauritius).

Archamia zosterophora (Bleeker).

Apogon zosterophora Bleeker, Act. Soc. Sci.
Ind. Néerl. (Manado), vol. 1, 1856, p. 36.
Manado, Celebes.

Apogon zosterophorus Günther, Cat. Fishes
Brit. Mus., vol. 1, 1859, p. 245 (copied).

Amia zosterophora Bleeker, Atlas Ichth.
Ind. Néerl., vol. 7, 1873-76, p. 103, pl. (35)
313, fig. 2 (Celebes).

Archamia zosterophora Weber, Siboga
Exped., vol. ⁵⁷~~65~~ ^{Indie}, 1913, p. 236 (Tual, Low Key).

— Fowler, Copeia, no. 58, June 18, 1918, p.
63 (Philippines); Proc. Acad. Nat. Sci.
Phila., 1918, p. 28, fig. 12; 1927, p. 274.
(Philippine materials).

Polydactylus pfeifferi (not
Bleeker) Fowler, Proc. Acad. Nat.
Sci. Philadelphia, 1900, p. 501
(Hawaiian Islands).

Archamia lineolata (Cuvier).

Apogon lineolatus (Ehrenberg) Cuvier, Hist. Nat. Poiss., vol. 2, 1828, p. 160. Red Sea.

— Rüppell, Atlas Reise nördl. Afr.¹⁸²⁸ Fische, 1828, p. 47, pl. 12, fig. 1 (Massarah);

Neue Wirbelth., Fische, 1835, p. 88

(Massarah). — Günther, Cat. Fishes Brit.

Mus., vol. 1, 1859, p. 244 (copied). —

Klunzinger, Verh. zool. bot. Ges. Wien,

vol. 20, 1870, p. 710 (Red Sea). — Barnard, Ann. South Afr. Mus., vol. 21, 1927, p. 516 (Delagoa Bay).

Apogon (Archamia) lineolatus Klunzinger, Fische Roth. Meer., 1884, p. 19.

Archamia lineolata Jordan and Seale,

Bull. Bur. Fisher., vol. 25, 1905 (1906), p.

252, pl. 38, fig. 1 (Pago Pago and Apia);

vol. 26, 1906 (1907), p. 17 (Cavite). — Seale

and Bean, Proc. U. S. Nat. Mus., vol. 33,

1907, p. 242 (Zamboanga). — Weber,

Siboga Exped., vol. ^{57, Fische} 65, 1913, p. 236 (Lombok, Biaru; Salibabu; west Ceram; Saleyer).

Depth $3\frac{1}{5}$ to $3\frac{2}{5}$; head $3\frac{1}{5}$ to $3\frac{2}{5}$, width $2\frac{1}{4}$ to $2\frac{2}{5}$. Snout 5 to 6 in head; eye $3\frac{2}{5}$ to $3\frac{2}{3}$, greater than snout, subequal with interorbital; maxillary reaches beyond eye, expansion $2\frac{1}{4}$ to $2\frac{1}{2}$ in eye, length 2 to $2\frac{1}{10}$ in head; interorbital $3\frac{1}{5}$ to $3\frac{1}{2}$, broadly convex. Gill rakers 12 to 14 + 16 or 17, lanceolate, $1\frac{2}{5}$ to $1\frac{1}{2}$ in eye; gill filaments $\frac{2}{5}$ of gill rakers.

Scales 60 to 66 in lateral line to caudal base and 15 to 20 more over latter; 8 or 9 above, 12 or 13 below, 28 to 35? predorsal. Scales with 4 or 5 basal radiating striae, edge with median notch; apical denticles 38 to 55, transversely 4 to 6; circuli fine.

D. VIII — I, 12, I or I, 13, I, third spine $1\frac{2}{5}$ to $1\frac{1}{2}$ in head, first branched ray $1\frac{1}{10}$ to $1\frac{1}{4}$; A. III, 11, I or 12, I, third

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spine 3 to $3\frac{1}{4}$, first branched ray
 $1\frac{1}{6}$ to $1\frac{2}{3}$; least depth of caudal
peduncle $2\frac{1}{6}$ to $2\frac{1}{5}$; pectoral $1\frac{1}{5}$
to $1\frac{1}{2}$, rays \pm , 15, 6, filaments reach
vent; ventral $1\frac{1}{2}$ to $1\frac{2}{3}$ in head;
caudal $2\frac{1}{4}$ to $2\frac{2}{5}$ in rest of fish,
strongly forked.

Back drab or gray, sides paler
to yellowish. Below white. Iris
white. Dorsal dusky terminally,
spinous fin darker. Caudal,
anal and pectoral brownish
terminally, lower anal edge
whitish.

2924

Polydactylus sextarius (Schneider)

Polynemus sextarius Schneider,
Syst. Ichth. Bloch, p. 18, pl. 4,
1801 (type locality, Tranquebar).
— Cuvier, Hist. Nat. Poiss., vol. 3,
p. 388, 1829 (compiled). — Valenciennes,
Hist. Nat. Poiss., vol. 7, p. 514, 1831
(Coromandel). — Bleeker, Verh.
Batavia. Genoot. (Perc.), vol. 22,
p. 59, 1849 (Batavia). — Cantor,
Journ. Asiatic Soc. Bengal, vol.
18, pt. 2, p. 1014, 1849 (Pinang Sea).
— Jerdon, Madras Journ. Lit. Sci.,
1851, p. 140. — Bleeker, Verh.
Batavia. Genoot. (Nat. Ich. Bengal),
vol. 25, p. 34, 1853 (reference); Nat.
Tijds. Ned. Indië, vol. 21, p. 138,
1860 (Muntok, Banca). — Günther,
Cat. Fish. Brit. Mus., vol. 2, p. 326,
1860 (Malay Peninsula). — Day,

23588. ^{Boat} Tifu, Bouru Island,
 Dutch East Indies. December 10,
 1909. Length 48 to 73 mm. 12 examples.
 4 examples. Tomahu, vicinity Bouru
 Island. December 11, 1909. Length 49
 to 65 mm.

59 examples. Tomahu. December 12, 1909.
 Length 31 to 70 mm. Male with buccal
 ovum.

23965 to 23968. Limbe Strait,
 Celebes. November 11, 1909. Length 40 to 57
 mm.

20668 and 20669. Sadaa Island,
 Gulf of Tomini, Celebes. November 17,
 1909. Length 64 to 66 mm.

18118, ^{18497.} Tuna Keke Island, Flores Sea.
 December 21, 1909. Length 34 to 76 mm.
 7 examples.

Fishes of Malabar, p. 60, 1865.
- Playfair, Fishes of Zanzibar, p. 53, 1866 (Beyamita in east coast Africa).
1 - Jouan, Mem. Soc. Sci. Nat.
Cherbourg, vol. 13, p. 252, 1867
(Hong Kong). - Day, Fishes of
India, pt. 2, p. 177, pl. 42, fig. 6,
1876; Fauna Brit. India, Fishes,
vol. 2, p. 104, fig. 47, 1889. -
Duncker, Mitteil. Naturh. Mus. Hamburg,
vol. 21, p. 155, 1903 (1904) (compiled). -
Volz, Nat. Tijds. Ned. Indië, vol. 66,
p. 89, 1906 (Sumatra). -
Gilchrist and Thompson, Ann.
South Afric. Mus., vol. 6, p. 179,
1908 - " (atal; 24 fathoms South
Head Tugela River N. by W. $4\frac{1}{2}$
miles); Ann. Durban Mus., vol.
1, pt. 4, p. 317, 1917 (reference). -
Weber and Beaufort, Fish. Indo
 Austral. Archipel., vol. 4, p. 210,
1922 (Calcutta). - Barnard, Ann.

586

fins pink, pectorals with orange
bar at base.

9 examples. San Roque, Leyte
Island. January 29, 1909. Length 49 to
66 mm.

17114, 17178 to 17980. Simalue Sibi
Sibi Island, north of Tawi Tawi Group.
September 23, 1909. Length 57 to 73 mm.

9 examples. Tataan Island, Tawi
Tawi Group. February 21, 1908. Length
58 to 73 mm. [260].

18910 and 18911. Tubalutan Island,
east of Zamboanga. September 9, 1909.
Length 63 to 66 mm.

^{24019 to 24021.}
23424, 1 Tutu Bay. Jolo Island, first
anchorage. September 19, 1909. Length
68 to 78 mm. 17 examples.

2 examples. Ulugan Bay, near Rita
Island, Palawan. December 29, 1908.
Length 42 to 47 mm.

South Afric. Mus., vol. 21, pt. 1,
p. 317, pl. 12, fig. 4, 1925 (Natal;
Delagoa Bay; Chinde) — Chu,
~~Biolog. Bull. St. John's Univ., no. 1,~~
p. 106, January 1931 (reference). —
Hardenberg, Treubia, vol. 13,
livr. 3-4, p. 414, fig. 4, December
1931 (mouth Pancei River; Kuala
Lumpur, Malacca; Kapuas River
mouth, Borneo).

~~Eggleston, Proc. Acad. Nat. Sci. Philadelphia,
1924, p. 604 (Hong Kong).~~

Trichidion sextarius Gill, Proc.
Acad. Nat. Sci. Philadelphia, 1861,
p. 275 (reference). — Bleeker, Ned.
Tijds. Dierk., vol. 2, p. 174, 1865
(Siam).

with orange shades. Side with slightly backwardly curved bars, one through each tube of lateral line. Fin pink. Caudal dusky at extreme tip, with large diffuse dusky blotch at base.

15 examples. Rusa Island, Montaguin Bay, Palawan Island. April 1, 1909. Length 24 to 70 mm. Male with buccal ova.

9 examples. Saboon Island, Ragay Gulf, Luzon. March 10, 1909. Length 34 to 68 mm. [1291]. Translucent pearly. Head and breast with orange tints. Sides with curved, transverse bars of bright orange, showing through middle of scale rows. Dorsal dusky pink, without bars. Caudal similar, dusky behind. Anal pink, with orange bar near base. Paired

Trichidion sextarium Bleeker,
Ned. Tijds. Dierk., vol. 4, p. 143,
1873 (1874) (China). — Jordan
and Starbuck, Ann. Carnegie Mus.,
vol. 11, p. 455, 1917 (Ceylon).

Polydactylus sextarius Fowler,
Proc. Acad. Nat. Sci. Philadelphia,
vol. 77, p. 211, 1925 (Delagoa Bay;
Tugela River, 60 fathoms); ~~vol.~~
vol. 81, p. 604, 1929 (Hong Kong).

snout from eye to eye and corresponding golden blotch on hind portion of iris.

16496 and 16497. ~~Manila Bay~~
Masamat Bay, Luinulasag Island.
June 12, 1909. Length 43 mm.

4 examples. Polloc, southern
Mindanao. May 22, 1908. Length 48
to 63 mm.

291 examples. Port Juncelo, Luzon.
July 13, 1908. Length 22 to 72 mm.

23785. Port Palapag, east coast
Luzon. June 2, 1909. Length 21 to 53 mm.
33 examples.

64 examples. Port Palapag. June 3,
1909. Length 21 to 34 mm.

6 examples. Port Usan, Mayanpagan
Island. December 17, 1908. Length
60 to 65 mm. [874]. Transparent
silvery iridescent pink. Head

Polynemus xanthonemus Valenciennes,
 Hist. Nat. Poiss., vol. 7, p. 517, 1831
 (type locality, Coromandel; Pondicherry).
 — Richardson, Ichth. China Japan,
 p. 219, 1846 (China Sea; Canton). —
Günther, Cat. Fish. Brit. Mus.,
 vol. 2, p. 325, 1860 (compiled). —
Day, Fishes of India, pt. 2, p.
 177, 1876; Fauna British India,
 Fishes, vol. 2, p. 103, 1889. —
Reeves, Journ. Pan Pac. Res. Inst.,
 vol. 3, no. 2, p. 10, 1927 (reference).
 — Chu, Biol. Bull. St. John's
 Univ., no. 1, p. 106, January 1931
 (reference).

Trichidion xanthonemus Gill, Proc.
 Acad. Nat. Sci. Philadelphia, ¹⁸⁶¹ p.
 275 (reference).

6 examples. Port Janelo, Luzon.
July 13, 1908. Length 49 to 58 mm.

35 examples. Puerta Princesa,
Palawan Island. April 5, 1909.
Length 32 to 78 mm.

97 examples. Rasa Island, Mantaguin
Bay, Palawan Island. April 1, 1909.
Length 22 to 75 mm.

7 examples. Taram Island. December 15, 1908. Length 22 to 30 mm.

10 examples. Tataan Island, Tawi
Tawi Group. February 21, 1908. Length
67 to 74 mm.

4 examples. Tutu Bay, Jolo market,
first anchorage. September 19, 1909.
Length 74 to 79 mm.

10444. Varadero Bay, Mindoro. July 23,
1908. Length 60 mm.

15868. Danawan and Li Amil Islands,
Darvel Bay vicinity, Borneo. September 26,
1909. Length 72 to 79 mm.

2929

Trichidion xanthonema Blackbar,
Nederl. Tijds. Dierk., vol. 4, p. 143,
1873 (1874) (reference).

Polynemus approximans Lay and
Bennett, Voy. Beechey, Zool., p. 57,
1839 (type locality, →

Typical form.

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15162 and 16292. Ulilibjaban Island,
Ragay Gulf, Luzon. March 6, 1909.
Length 58 to 62 mm. 3 examples.

5592. Batangas market, east coast of
Luzon. June 7, 1908. Length 78 to 86 mm.
7 examples.

15061. Panmahala Bay, Luzon. March
11, 1909. Length 54 to 65 mm. 8 examples.
2 examples. Englewood Strait, north west Palawan. December 23, 1908. ^{Length 38 to 40 mm.}

17331. Isabel, Basilan Island, south
of Zamboanga. September 11, 1909.
Length 66 mm.

7736. Jolo market. February 12, 1908.
Length 86 mm.

4 examples. Maagnas, Lagonoy Gulf,
Luzon. June 17, 1909. Length 55 to 59 mm.

23482 and 23483. Mariveles wharf,
Manila Bay, Luzon. January 30, 1909.
Length 68 to 74 mm.

3 examples. Port Ciego, Balabac. January 3,
1909. Length 46 to 71 mm.

2930

Polynemus sextarius var. mullani

Hora, Rec. Indian Mus., vol. 27,
Text fig. 1 (pelvic fin and girdle)

pt. 6, p. 453, December 1925

(type locality, Bombay; Sind).

13 examples. Magnus Bay, Lagonoy Gulf, Luzon. June 17, 1907. Length 40 to 60 mm.

23783. Machesi Island, eastern Palawan. April 5, 1909. Length 62 mm.

8 examples. Malcochin Harbor, Linapacan Harbor, Linapacan Strait. December 18, 1908. Length 24 to 29 mm.

14239 and 23481. Marivela wharf. January 30, 1907. Length 58 to 69 mm. [1106.] Pearly, with reddish orange stripes across side about half wide as interspaces, which together with stripe less than pupil diameter. Blackish at caudal base. Lower head and chest with golden wash. Over all obscure specks of dusky or purplish, not showing markedly until colors faded. More or less distinct orange stripe across

(2931)

Depth $2\frac{3}{4}$ to 3; head $2\frac{7}{8}$ to $3\frac{1}{6}$, width 2 to $2\frac{3}{5}$. Snout $4\frac{1}{3}$ to $5\frac{2}{5}$ in head; eye $3\frac{1}{2}$ to $4\frac{2}{3}$, greater than snout, $1\frac{1}{5}$ to $1\frac{1}{4}$ in interorbital; maxillary reaches $\frac{3}{5}$ in eye, expansion 2 in eye, length from snout tip $1\frac{3}{5}$ to $2\frac{2}{5}$ in head; interorbital $3\frac{2}{3}$ to $5\frac{3}{4}$, convex; hind preopercle edge serrated. Gill rakers 12 to 16 + 15 to 19, lanceolate, longer than gill filaments or $1\frac{1}{2}$ in eye.

Scales 40 to 45 in lateral line to caudal base and 4 to 8 more on latter; 5 or 6 above, 9 to 11 below, 15 to 23 predorsal.

Scales with 3 to 5 basal radiating striae; 50 to 86 apical points,

24009. Powati Harbor, Makyan Island. November 28, 1909. Length 60 mm. [2078.] Translucent. Iris dusky red pearl color. Side of body gold and shot with yellow marks. Yellow stripe across snout through eye to opercle edge. Fins pale pink, first and second dorsal membranes black.

6 examples. Powati Harbor. November 28, 1909. Length 60 to 96 mm.

23975. Limbe Strait, Celebes. November 11, 1909. Length 61 mm.

with 10 to 17 transverse series of basal segments; circuli very fine. Small spine at front of lateral line.

D. VIII, I, 12, I or I, 13, I, third spine $1\frac{2}{5}$ to $1\frac{1}{2}$ in head, first ray $1\frac{1}{2}$ to $1\frac{3}{5}$; A. III, 12, I, third spine $3\frac{1}{2}$, first ray $1\frac{1}{2}$ to 2; least depth of caudal peduncle 2 to $2\frac{1}{10}$; pectoral $1\frac{1}{3}$ to $1\frac{1}{2}$, filaments 6. (variably 7 right and 6 left), in young not reaching end of pectoral fin, with age not quite far as tips of depressed ventrals; ventral $1\frac{3}{5}$ to $1\frac{7}{8}$ in head; caudal $2\frac{1}{8}$ to $2\frac{1}{2}$ in ^{rest of} fish, deeply forked.

Back pale olivaceous, below silvery white. Black blotch long as eye at third scale of lateral

muzzle. Iris all pale brownish,
spinous dorsal blackish brown
terminally. Iris pale yellowish
white, with neutral gray above.

Only known from the East Indies.

line, extends over 3 to 5 scales.
Head pale in front and below.
Fins dusky to grayish terminally.
Spinous dorsal and pectoral
more or less blackish. End of
anal sometimes brown. Pectoral
filaments pale. Ventral brownish
terminally.

East Africa, Mozambique,
Natal, India, Ceylon, Malaya,
Siam, East Indies, China.

well exposed and each with basal
 partly crenulated scale. ^{scales with} 7 to 11
 basal radiating striae; 47 to 96 apical
 denticles, with 2 to 5 transverse series
 of basal elements; ~~anterior~~ circuli moderately
 fine.

D. VII - I, 9, I, fourth spine $2\frac{1}{5}$ to $2\frac{1}{2}$ in
 total head length, first branched ray $1\frac{2}{3}$ to $1\frac{4}{5}$;
 A. II, 8, I, second spine 3 to $3\frac{1}{8}$, first
 branched ray $1\frac{4}{5}$ to $1\frac{7}{8}$; caudal $1\frac{1}{4}$ to $1\frac{1}{3}$,
 deeply emarginate behind, lobes
 pointed; least depth of caudal
 peduncle $2\frac{3}{4}$ to $2\frac{4}{5}$; pectoral $1\frac{3}{5}$ to $1\frac{2}{3}$;
 ventral $1\frac{7}{8}$ to 2.

Brown on back and above generally,
 lower surface of head and abdomen
 paler to whitish with lilac or silvery
 reflections. Rather broad, ill defined
 deep brown band around end of
 snout to eye, also includes tip of

2934
A. N. S. P., two examples.
Delagoa Bay, Portuguese East
Africa. 1922. H. W. Bell Marley.

A. N. S. P., one example. Off Tugela
River in 60 fathoms. 1922. H. W.
Bell Marley.

A. N. S. P., one example. Bombay.
1925. Bombay Natural History
Society. Length 250 mm.

Depth $2\frac{3}{4}$ to 3; head $2\frac{2}{5}$ to $2\frac{1}{2}$, width $2\frac{1}{4}$ to $2\frac{2}{3}$. Snout $4\frac{2}{5}$ to 5 in head from snout tip; eye 3 to $3\frac{1}{3}$, much greater than snout or interorbital; maxillary reaches $\frac{3}{5}$ to $\frac{2}{3}$ in eye, expansion 2 to $2\frac{1}{2}$ in eye, length 2 to $2\frac{1}{10}$ in head; teeth in villiform bands in jaws with inner row in each little enlarged, lower laterals especially so and curved, also pair of rather large teeth on vomer and row of little enlarged teeth on each palatine; interorbital 5 to $5\frac{1}{3}$, nearly level; preopercle ridge entire, edge minutely denticulate; preorbital entire. Gill rakers 5 + 12, lanceolate, greatly larger than gill filaments or $2\frac{2}{5}$ in eye.

Scales 24 in lateral line to caudal base and 4 more on latter, 2 above, 6 below, 5 or 6 predorsal, 2 rows on cheeks. Tubes in lateral line large, simple,

2935

Polydactylus sheridani (Macleay)

Polynemus sheridani Macleay, Proc.
Linn. Soc. New South Wales, vol. 9,
pt. 1, p. 21, May 23, 1884 (type
locality,
Kent, Great Barrier Reef, p. ,
1893 (Burnett River). — McCulloch
and Whitley, Mem.
Queensland Mus., vol. 8, pt. 2,
p. 142, July 7, 1925 (reference). —
McCulloch, Mem. Austral.
Mus., vol. 5, pt. 1, p. 119, June 29,
1929 (reference).

21048. Capunayugan, Generale Island, east coast Mindanao.

May 9, 1908. Length 71 mm.

1 example. Caracaran, Batan Island, east coast Luzon. June 8, 1909. Length 29 mm.

14 examples. Cebu market, Cebu. March 19, 1909. Length 30 to 69 mm. [1405]. Translucent, with numerous fine pink specks. Fins pink, without distinct bars.

120, 121, 124 to 126, 128, 130, 131, 23492, 24071. Endeavor Strait, Malampaya Sound, Palawan Island. December 23, 1908. Length 52 to 67 mm. 11 examples.

17330, 17332, 17351. Isabel Channel, Basilan Island, south of Zamboanga. September 11, 1909. Length 63 to 81 mm. 7 examples.

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2937

Polydactylus specularis (De Vis)

Polynemus specularis De Vis, Proc.
Linn. Soc. New South Wales, vol. 8,
pt. 2, p. 285, July 17, 1883 (type
locality,

— Ogilby, Ann. Queensland Mus.,
no. 10, p. , 1911 (Moreton Bay). —

McCulloch and Whitley, Mem.
Queensland Mus., vol. 8, pt. 2, p.

142, July 7, 1925 (reference). —

McCulloch, Mem. Austral. Mus.,
vol. 5, pt. 1, p. 119, June 29, 1929
(reference).

16291. Alibijaban Island,
Ragay Gulf, Luzon. March 6, 1909.
Length 52 mm.

23789 and 23790. Alimango Bay,
Burias Island. March 5, 1909.
Length 50 to 57 mm.

3 examples. Bolalo Bay, Malampaya
Sound, Palawan Island. December 21,
1908. Length 40 to 43 mm.

6111, 6114, 6115. Bolinao Bay, west
coast Luzon. May 10, 1909. Length 47 to
48 mm.

3 examples. Busin Harbor, Burias
Islands. March 8, 1909. Length 48 to 63 mm.

15811, 15813, 15818, 23430. Butuanan
Island, east coast Luzon. June 13, 1909.
Length 76 to 81 mm.

13 examples. Cammahala Bay, Ragay
Gulf, Luzon. March 11, 1909. Length
32 to 69 mm.

2938

Polydactylus verekeri (Kent)

Polynemus verekeri Kent, Proc. Roy. Soc. Queensland, vol. 6, pt. 5, p. 222, pl. 13, fig. 1, 1889 (type locality, Ord River, Cambridge Gulf, North West Australia). — McCulloch, Mem. Austral. Mus., vol. 5, pt. 1, p. 120, June 29, 1929 (reference).

23587. Tifu Bay, Bouro Island,
Dutch East Indies. December 10, 1909.
Length 67 to 76 mm. 8 examples.

9 examples. Tomahu Island. December
12, 1909. Length 35 to 78 mm.

23628, 23629, 23786. Powati Harbor, Malayan
Island. November 29, 1909. Length 65 to 76
mm.

18115 to 18117, 18119, 18498 to 18500. Tana
Keke Island, Flores Sea. December 21, 1909.
Length 68 to 75 mm.

23411. Gane Road, Gillolo Island.
December 1, 1909. Length 65 to 75 mm.
9 examples.

13056 and 13513. Gomomo Island,
Pitt Passage. December 3, 1909. Length
52 to 58 mm.

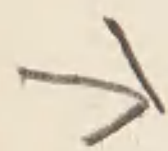
2939

Genus Polynemus Linnaeus

2940

(Gronow)
Polynemus Linnaeus, Syst. Nat., ed. 10,
pt. 1, p. 317, 1758. (Type Polynemus
quinquarius Linnaeus, designated
by Gill, Proc. Acad. Nat. Sci.
Philadelphia, 1861, p. 272.)

Pentanemus (Artedi) Günther, Cat.
Fish. Brit. Mus., vol. 2, p. 331, 1860.
(Type Polynemus quinquarius
Linnaeus, monotypic.)



Note for Fowler - by JSMYers ←

You say in the key that Polynemus has
30 anal rays and an entire preopercle.
Yet you place plebeius in this genus when
plebeius has only about 12 or 13 anal
rays and a denticulate preorbital !)

Maxillary well expanded behind.
 Bands of villiform teeth in jaws,
 on vomer, palatines and
 ectopterygoids. Preopercle edge
 entire. Air-bladder present.
 Scales moderate, ciliated.
 Vertical fins partly naked.
 Dorsal spines 8, feeble. Anal
 much longer than soft dorsal.
 Pectoral filaments 5, much
 longer than body.

~~Two species, the following
 and Polyneemus quinquearmatus
Linnaeus in the tropical Atlantic.~~

Fowler! Plebeius is not a
Polyneemus. See preceding page
 G. S. Myers

head and body with underlaid
dull or obsolete brownish dots.

Iris whitish or grayish. Diffuse
dark or dusky brown blotch at
caudal base, little less than eye,
usually very conspicuous or contrasted.
Fins all uniformly pale brownish.

~~Red Sea, Ceylon, India, East Indies,~~
~~Philippines.~~

Red Sea, East Africa, Zanzibar,
Mozambique, Madagascar, India,
Ceylon, East Indies, Philippines,
Formosa, Queensland, Melanesia,
Micronesia, Polynesia.

2950

Polynemus
Polydactylus plebeius Broussonet

Polynemus plebeius Broussonet,
Ichth. Dec., no pagination, pl., 1782
(type locality, Pacific Ocean near
Tahiti; near Tanna). — Bloch,
Naturges. Ausland. Fische, vol. 9, pl.
400, 1795. — Shaw, General Zool.,
vol. 5, pl. 25, 1804 (Indian Seas).
— Cuvier, Hist. nat. Poiss., vol. 3, p.
380, 1829 (Java; Mauritius;
Tranquebar; Pondicherry; ^{Tahiti; Tanna}). —
Cantor, Journ. Asiatic Soc. Bengal,
vol. 18, pt. 2, p. 1009, 1849 (1850) (part).
— Thiollière, Tanna Woodlark, p. 150, 1857 (Woodlark Island).
— Guichenot, Notes Ile Réunion,
vol. 2, p. 24, 1862. — Bleeker, Rés.
Madagascar, Pollen et Van Dam,

13297, 23803, 24051. Yommo Island,
Pitt Passage. December 3, 1909. Length
38 to 59 mm. 11 examples.

(23592 to 23590), Tifu Bay, Bowro Island.
December 10, 1909. 9 examples. Length 60
to 66 mm.

23857 and 23858. Togian Bay, Togian
Island, Gulf of Tomini, Celebes.
November 19, 1909. 3 examples. Length
38 to 58 mm.

23937, 24063 to 24065. Talisse Island,
north of Celebes. November 9, 1909. Length
57 to 67 mm.

20 examples. Gune Road, Gillolo Island.
December 1, 1909. Length 59 to 68 mm.

pt. 4, p. 79, 1874 (reference). —

Day, Fishes of India, pt. 2, p. 179,
 — Peters, Monatsber. Akad. Wiss. Berlin, p. 835, 1876 (1877) (New Britain).

1876 (Sind, India). — Meyer,
 — Schmeltz, Cat. Mus. Godeffroy, no. 7, p. 44, 1879 (South Seas).

An. Soc. Españ. Hist. Nat. Madrid,
 vol. 14, p. 23, 1885 (Celebes). —

Day, Fauna British India, Fishes,
 vol. 2, p. 106, 1889. — Ishikawa and

Matsumura, Prelim. Cat. Fish. Mus.

Tokyo, p. 45, 1895. — Pellegrin,

Bull. Soc. Zool. France, vol. 39, p.

224, 1914 (Diego Suarez and Fort

Dauphin, Madagascar). — Barnard,

Ann. South Afric. Mus., vol. 21, pt.

1, p. 317, June 1925 (East London;

Katal; Delagoa Bay; Chinde). —

McCulloch, Mem. Austral. Mus.,

vol. 5, pt. 1, p. 120, June 29, 1929 (New

21 examples. Tutu Bay, Jolo Island,
first anchorage. September 19, 1909.

Length 56 to 66 mm.

28 examples. Ulugan Bay, Palawan
Island. December 25, 1908. Length 40
to 52 mm.

1 example. Ulugan Bay, near Rita
Island. December 29, 1908. Length 48 mm.

23794 and 23795. Bumbum Island,
vicinity Darvel Bay, Borneo. September
25, 1909. Length 48 to 56 mm. 6 examples.

15869. Danawan and Si Amil Islands,
vicinity Darvel Bay, Borneo. September
26, 1909. Length 48 to 67 mm.

South Wales) — Tirant, Serw.
Océan. Pêches Indo Chine, p. 169,
1929 (Cochin China). — Borodin,
Bull. Vanderbilt Marine Mus., vol.
1, art. 3, p. 77, 1932 (Brisbane).
Polinemus plebeius Bonnaterre, Tableau
Ichth., p. 183, pl. 74, fig. 309, 1788 (South
Sea).

Polynemus plebeius Gmelin, Syst.
Nat. Linn., pt. 1, p. 1401, 1789 (Pacific
Ocean). — Bloch, Naturges. Ausland.
Fisch., vol. 9, p. 22, 1795 (East
Indies; Bengal Sea [not West
Indies and South America]).
(— Walbaum, Arted. Pisc., vol. 3, p.
630, 1792 (on Gmelin)).

— Schneider, Syst. Ichth. Bloch,
p. 17, 1801 (East Indies; Tahiti).

Breast colored similarly to black area of sides. Branchiostegal margin orange brown. Dark umber brown stripe before eye across snout to opposite eye. Lower jaw tip dusky. Spinous dorsal pale dusky orange. Soft dorsal with pinkish shades, blackish at base. Caudal pink, narrowly tipped with black. Small black spot on caudal peduncle at base. Anal pink. Ventral light reddish brown, base marked by bar of same color.

24082. Tataan Island, Tuvi Tawi Groups.
February 21, 1908. 11 examples. Length 54 to 68 mm.

— Bleeker, Verh. Batavia. Genoot.
 (Perc.), vol. 22, p. 58, 1849 (Batavia;
 Surabaya; Samarang; Java);
 (Madura), p. 4 (Kammal; Sampang).
 — Schlegel, Fauna Japonica, Poiss.,
 pts. 2-4, p. 29, pl. 11, fig. 1, 1843
 (Nagasaki Bay).

— Bleeker, Nat. Tijds. Ned. Indië, vol.
 3^{p. 160,}₁, 1852 (Timor Kupang); Verh. Batavia.
 Genoot. (Nal. Ich. Bengal), vol. 25, p. 34,
 1853 (reference); Nat. Tijds. Ned. Indië,
 vol. 8, p. 345, 1855 (Tikoe, Sumatra);
 vol. 9, p. 192, 1855 (Batjan); vol. 11,
 p. 253, 1856 (Laboeha, Batjan);
 Act. Soc. Sci. Ind. Néerl., vol. 1, no.
 3, p. 3, 1856 (Manado); vol. 1, no. 5,
 p. 4, 1856 (Amboina); Nat. Tijds.

8068. Sacol Island, east of Zamboanga.
September 9, 1909. Length 57 mm.

11 examples. Sangley Point, Cavite,
Luzon. March 23, 1908. Length 50 to 54 mm.

8292 to 8295. San Miguel Island,
Tabaco Bay. June 4, 1909. Length 52 to 59 mm.

23802. Santa Cruz Island, Marinduque.
April 24, 1908. Length 50 to 56 mm.

12 examples. Tataan, Simabuc Island.
February 19, 1908. Length 58 to 64 mm. [158.]
Pearly gray. Broad black bar from soft
dorsal across to vent, broken by
numerous light nuclei. Two narrow
orange brown bars across back of
head, one near hinder opercle edge
and one near hinder preopercle edge.

Ned. Indië, vol. 13, p. 479, 1857
 (Prigi, Java); Verh. Batavia.
 Genoot. (hal. Ichth. ~~Singapore~~,
~~Japan~~), vol. 26, p. 4, 1857
 (Nagasaki); Act. Soc. Sci. Ind.
 Néerl., vol. 3, no. 3, p. 5, 1857-58.
 (Japan); Nat. Tijds. Ned. Indië,
 vol. 17, p. 142, 1858-59 (Boeleling,
 Bali). — Günther, Cat. Fish. Brit
 (vol. 3, no. 4, p. 2, 1857-58 (Manado);
 Mus., vol. 2, p. 329, 1860 (Amboyna,
 Malay Peninsula). X

— Günther, Journ. Mus. Godeffroy, vol. 4, p. 103,
 pl. 77, fig. A, 1875 (Guadalcanal, Solomons;
 Samoa; Tahiti). — Schmeltz, Cat. Mus.
 Godeffroy, no. 6, p. 14, 1877 (Upolu). — Macleay,
 Proc. Linn. Soc. New South Wales, vol. 4, p. 63,
 1879 (Solomons); vol. 7, p. 353, 1882 (New
 Guinea).

1, p. 504, 1895 (Currimao; Luzon; Ilocos).

of the lateral line simple, hardly
characters for generic distinction.

— Steindachner, Ann. Hoffmus.

Wien, vol. 11, p. 208, 1896 (Japan).

— Weber, Siboga Exped., vol. 57,

Fische, p. 144, 1913 (Kawa, West

Ceram). — Weber and Beaufort,
Fishes Indo Austral. Archipel.,

vol. 4, p. 202, 1922 (Pulu Weh;

Kota Radjah, Sumatra; Nias;

Panandjong Bay, Java; Ceram; Am).

— Reeves, Journ. Pan Pac. Res.

Inst., vol. 3, no. 2, p. 10, 1927

(Swatow; Amoy). — Chu, Biol. Bull.

St. John's Univ., no. 1, p. 106, January

1931 (reference).

— Uncker and Mohr, Mitteil. Naturh.

Mus. Hamburg, vol. 42, p. 129, 1926

(Rein Bay, Lagoon Point, Luschen and
Mowe Harbors, New Pomerania).

forward to belly. Faint pink. Small black blotch at caudal base.

2 examples. Puerta Princesa Island, eastern Palawan. April 5, 1909. Length 50 to 53 mm.

17490. Refugio Island, Pasacao, Luzon. March 9, 1909. Length 51 mm.

23659 to 23673. Rapurapur Island. January 22, 1909. (23671 with buccal eggs.) Length 39 to 68 mm. 35 examples.

11 examples. Romblon Harbor. March 25, 1909. Length 47 to 56 mm.

4 examples. Romblon Harbor. March 26, 1909. Length 57 or 58 mm.

4 examples. Rosa Island, Mantaguin Bay, Palawan. April 1, 1909. Length 32 to 43 mm.

Depth 3 to $4\frac{1}{4}$ ^{$\frac{1}{4}$} ; head 3 to $3\frac{1}{3}$ ^{$\frac{1}{3}$} ,
width $1\frac{1}{8}$ ^{$\frac{1}{8}$} to $2\frac{1}{4}$ ^{$\frac{1}{4}$} . Snout $4\frac{4}{5}$ to 6
in head; eye $4\frac{1}{4}$ to $4\frac{3}{4}$ ^{$\frac{10}{4}$} , greater
than snout, ^{to $1\frac{1}{2}$ fin snout,} $1\frac{1}{10}$ to $3\frac{1}{8}$ in
interorbital; maxillary extends
beyond eye $\frac{2}{3}$ to 2 ^{eye diameters,}
expansion $1\frac{1}{2}$ to 2 in eye, ^{to $1\frac{1}{3}$ times eye,} length
from snout tip $1\frac{3}{5}$ to $2\frac{1}{5}$ in head;
interorbital $3\frac{4}{5}$ to $5\frac{1}{3}$, broadly
convex. Gill rakers 10 or 11 + 15
to 17 of which 2 or 3 lower rudiment-
ary, lanceolate, longer than gill
filaments or $1\frac{1}{5}$ to 2 in eye.

Scales 55 to ¹⁵⁰~~65~~ in lateral
line to caudal base with 15 to 20
more on latter, ^{7 or} 8 above, 11 or 12
below, 31 to ⁶~~34~~ predorsal.

Known only from the Philippines,
we having the following series listed
below. It is one of the paler and
less contrasted forms though fairly
constant in color pattern. Several
males with the thorax swollen, also
the mouth cavity, evidently having
just completed buccal incubation.
In the lot D. 5143 were also several
gravid females, but only one male
with a few eggs in the buccal cavity.

Scales with 2 or 3 basal
radiating striae, one forming
median notch, ^{with 10 to 24 series transversely of basal elements} 65 to 92 apical
denticles, with 9 or ~~24~~¹⁰ series of
basal elements; circuli fine.

D. VIII I, 13, I, third spine
 $1\frac{2}{5}$ to $1\frac{3}{5}$ in head, first branched
ray $1\frac{2}{5}$ to $1\frac{3}{5}$; A. II, 11, I, second
spine $3\frac{1}{8}$ to 5, first branched
ray $1\frac{3}{4}$ to 2; least depth of
caudal peduncle $2\frac{1}{8}$ to $3\frac{1}{8}$;
^{rays 17 or 18, fin} pectoral, $1\frac{2}{3}$ in head to $1\frac{1}{3}$ times
head, of 5 filaments upper
largest and reaches little beyond
ventrals, not to anal; ventral
 $1\frac{1}{2}$ to 2 in head; caudal $2\frac{2}{5}$ to

line and another parallel with vertebral axis laterally. Brown band, including end of mandible and snout extends to eye and faintly reflected on postocular. Small black median spot, less than pupil, at caudal base and sometimes reflected as diffuse dark bar above and below.

Fins generally all pale, on spinous dorsal broad dusky band obliquely from front edge up till behind fifth spine, also subbasal deep brown line on soft dorsal and usually another along anal subbasally but most distinct posteriorly. Iris pale or brassy to brown or neutral gray.

Trichidion plebeius Gill, Proc.
Acad. Nat. Sci. Philadelphia, 1861,
p. 276 (reference). — Bleeker, Ned.
Tijds. Dierk., vol. 2, p. 174, 1865
(Siam).

Polydactylus plebeius Jordan and
Snyder, Proc. U. S. Nat. Mus., vol. 23,
p. 358, 1900 (Tokyo); Annot. Zool.
Japon., vol. , p. 85, 1901 (reference).
— Deuncker, Mitteil. Naturh. Mus.
Hamburg, vol. 21, p. 155, 1903 (1904)
(compiled). — Jordan and Seale,
Bull. Bur. Fisher., vol. 25, p. 219,
1905 (1906) (Apia; Pago Pago). — Seale
and Bean, Proc. U. S. Nat. Mus.,
vol. 33, p. 241, 1906 (Zamboanga). —

49 examples. Port Matalvi, Luzon.
November 23, 1908. Length 44 to 58 mm.

23787, 23788, 23792, 23793. Port Palapag,
east coast of Luzon. June 3, 1909. Length
57 to 63 mm.

33 examples. Port Usan, west of Pinas
Island. December 17, 1908. Length 50 to 59
mm. [924.] Translucent silvery-gray,
slightly dusky above and purplish
iridescence above anal. Black stripe
across snout from fronts of eyes.
Orange brown bar under hind limb
of preopercle and across hinder edge
of opercle. Throat and ventral surface
more or less orange brown. Black
bar from second dorsal obliquely.

Schmidt, Bull. Acad. Sci. U. S. N.,
p. 549, 1930 (Okinawa).

— Seale, Occas. Pap. Bishop Mus., vol. 4,
no. 1, p. 18, 1906 (Tahiti; Nukuhiva). —

Jordan and Dickerson, Proc. U. S. Nat.
Mus., vol. 34, p. 607, 1908 (Suva). —

Fowler, Mem. Bishop Mus., vol. 10, p. 130,
1928 (Tahiti; Nukuhiva; New Guinea;
Samoa); vol. 11, no. 5, p. 325, 1931 (reference).

Polydactylus plebejus Jordan and
Evermann, Proc. U. S. Nat. Mus., vol.
25, p. 351, 1902 (Kotosho, Formosa).

— Seale, Philippine Journ. Sci.,
vol. 9, p. 62, 1914 (Hong Kong).

— Steindachner, Sitzb. Akad. Wiss.
Wien, math.-naturw. Kl., vol. 115, pt. 1,
p. 1417, 1906 (Lepole).

— Fowler

[D.5360.] Limbones Cove, Manila Bay, Luzon.
February 8, 1909. Length 47 mm.

14110. Endeavor Strait. December 24,
1908. Length 48 mm.

8 examples. Isabel Channel, Basilan
Island. September 11, 1909. Length 52 to 58 mm.

→ 15804,
15802, 15803, 23784, 23392, 23791. Makesi

Island, Palawan. April 5, 1909. Length
55 to 60 mm.

1 example. Manila Harbor. January 1, 1908. Length 48 mm.

32 examples. Mantacao Island west of
Bohol Island. April 8, 1908. Length 28 to 59 mm.

12 examples. Mantaguin Bay, Palawan
Island. April 2, 1909. Length 40 to 46 mm.

1 example. Oyster Inlet, Ulugan Bay,
Palawan Island. December 28, 1908.

Length 47 mm.

19956. Port Galera, Mindoro. October
27, 1909. Length 57 mm.

Polynemus niloticus Shaw, General Zool., vol. 5, p. 151, 1804 (type locality, Nile) (on Bruce, Append. Travel).
Polynemus lineatus Lacépède, Hist. Nat. Poiss., vol. 4, pp. 410, 412, pl. 13, fig. 2, 1803 (type locality, Mauritius).
 — Günther, Cat. Fish. Brit. Mus., vol. 2, p. 327, 1860 (Amboyna and Guatacana [as a new species]). — Kner, Reise Novara, Fische, p. 137, 1865 (open sea 50 miles off ^{Ceylon}). — Elera, Cat. Fauna Filipinas, vol. 1, p. 504, 1895 (Luzon; Manila).

Trigla asiatica Lichtenstein, Descript. Animal. Forster, p. 236, 1844 (type locality, Tahiti; Huahua; Orinda).

23801. Below mouth of Mindanao River,
Catabato, Mindanao. May 20, 1908. ^{3 examples.} Length ⁵⁵45 mm.

13 examples. Biri Channel, southern Biri
Island. June 2, 1909. Length 52 to 60 mm.

208 examples. Bolalo Bay, Palawan Island.
December 21, 1908. Length 28 to 51 mm.

292, 293, 294, 7090. Busin Harbor,
Burias Island. March 8, 1909.

15 examples. Length 51 to 61 mm.

14252. Candaraman Island, Balabac.

January 4, 1909. Length 58 mm.

1 example. Canmahala Bay, Luzon. March 11, 1909. Length 58 mm.

21 examples. Endeavor Strait, north-west
coast of Palawan. December 22, 1908.
Length 50 to 58 mm.

24072, 24073. Endeavor Strait. December
23, 1908. 3 examples. Length 49 to 56 mm.

2959

Polynemus taeniatus Günther, Cat.

Fish. Brit. Mus., vol. 2, p. 526,
1860 (name based on Polynemus
lineatus Günther p. 526). —

Kner, Reise Novara, Fische, p. 137,
1865 (50 miles off Ceylon). —

Gilchrist and Thompson, Ann.

South Afric. Mus., vol. 6, pt. 2,
p. 179, 1908 (Natal); Ann. Durban Mus.,
vol. 1, pt. 4, p. 318, 1917 (reference).

Trichidion taeniatus Gill, Proc.

Acad. Nat. Sci. Philadelphia,
1861, p. 276 (reference).

— Schmeltz, Cat. Mus. Godeffroy, ^{no. 3, p. 8, 1866 (Samoa);} no. 4,
p. 17, 1869 (Samoa).

from all or greater part of soft dorsal base to postventral region, often reflected on dorsal and sometimes variously invading front of anal. Small blackish median basal caudal spot, less than half of eye. Iris silvery white.

East Indies, Philippines. A very handsome small species and very strongly contrasted in color pattern. This shows but little variation, though in preserved examples is often quite pale. Specimens from Manila Bay and vicinity and some from Mantaguin Bay, Palawan, lack the cross bands in alcohol and have the caudal spot very small. They also have a slightly smaller eye and slenderer caudal peduncle.

Polydactylus agonasi Jordan and
Mc Gregor, Proc. U. S. Nat. Mus.,
 vol. 30, p. 814, fig., 1906 (type
 locality, Tokyo). — Franz, Abhand.
 Kon. Bayer. Akad. Wiss., vol. 4,
 Suppl. Band 1, p. 25, 1910
 (Sagami Bay).

Polydactylus agonashi Anonymous,
 Illustrat. Jap. Aquat. Plants
 Animals, vol. 1, pl. 27, fig. 5,
 1931.

~~Polydactylus agonashi Franz, Abhand.~~

Scales with
 7 to 9 basal radiating striae; sometimes
 with 22 weak apical denticles; circuli
 fine.

D. VI-I, 9, I third spine $2\frac{3}{5}$ to $2\frac{3}{4}$
 in total head length, first ray $1\frac{2}{5}$ to
 $1\frac{1}{2}$; A. II, 15, I or 16, I, second spine
 $2\frac{1}{6}$ to 3, first ray $1\frac{2}{3}$ to $1\frac{3}{4}$; caudal
 $1\frac{1}{8}$ to $1\frac{1}{4}$, moderately emarginate behind;
 least depth of caudal peduncle $2\frac{3}{5}$ to
 $2\frac{3}{4}$; pectoral $1\frac{1}{2}$ to $1\frac{3}{5}$; ventral 2 to $2\frac{1}{8}$.

Light or pale brown generally, sides
 and below little paler and silvery
 reflections on side of head and abdomen.
 Blackish brown band, narrower than
 pupil, from snout tip to eye. Cheek
 and sometimes opercular or edge of
 gill opening with obscure dusky dots.
 Broad blackish brown body band
 transversely and inclined little forward,

$3\frac{1}{8}$ \times $\frac{4}{5}$ in ^{rest of} fish without caudal.

2963

Olive brown above, paler
to whitish below. ^{Iris pale brown.} Dorsals neutral
black terminally. Anal dusted
neutral gray terminally.
Hind caudal edge narrowly
dark neutral gray. Pectoral
largely neutral black. Ventral
whitish.

Mozambique, Natal, South
Africa, Madagascar, Mauritius,
Bourbon, India, Malaya, Siam,
East Indies, Philippines, Indo
China, China, Formosa, Riu Kiu,
Japan, Queensland, Melanesia,
Polynesia.

Scales with
16 to 18 basal radiating striae; 73 to ⁴⁷⁶
118 apical denticles form an alternate
series, ^{or} with 2 or 3 transverse series
of basal elements; ~~many~~ circuli fine
but none apical.

D. VII - I, 9, I, fourth dorsal spine
 $2\frac{1}{3}$ to $2\frac{3}{5}$ in total head length, second
dorsal ray $1\frac{4}{5}$ to $1\frac{7}{8}$; A. II, 8, I, second
spine $3\frac{3}{5}$ to 4, first branched ray 2
to $2\frac{1}{8}$; caudal $1\frac{1}{5}$ to $1\frac{1}{3}$, hind edge
emarginate; least depth of caudal
peduncle $2\frac{3}{4}$ to $2\frac{7}{8}$; pectoral $1\frac{2}{3}$ to
 $1\frac{3}{4}$; ventral $1\frac{7}{8}$ to $2\frac{1}{10}$.

Largely light brown, sides of
head and trunk with dull silvery
to brassy tints. Slightly diffuse
pale streak follows along in lateral

A. 782, A. 783. Sebatic Island.

October 1, 1909. Length 508 to 710 mm.

23943 to 23945.

17337 to 17343, Isabel, Basilan Island.

September 11, 1909. Length 83 to 98 mm.

~~123487. Kayan Island. November 29, 1909.~~~~Length 10 mm.~~

5740. Mahinoy, Camiguin Island.

August 3, 1909. Length 102 mm.

15001 to 15003, 15008, 15009, 15012, 16903

to 16906, 23144 to 23147, 23390. Makesi
Island, Palawan. April 5, 1909.

Length 63 to 100 mm.

6 examples. Makesi Island.

Length 65 to 86 mm.

~~23155 to 23156. Makeyan Island.~~~~November 29, 1909. Length 105 to 112 mm.~~~~(23156 male with buccal row.)~~~~23348. Makeyan Island. November 29, 1909. Length 105 mm.~~

A. N. S. P., three examples.
Bombay, India. 1925. Bombay
Natural History Society. Length
228 to 278 mm.

475

Depth $2\frac{3}{4}$ to 3; head $2\frac{1}{2}$ to $2\frac{2}{3}$, width
3 to $3\frac{1}{8}$. Snout $4\frac{1}{8}$ to $4\frac{1}{4}$ in head
from snout tip; eye $3\frac{1}{4}$ to $3\frac{1}{2}$, greater
than snout or interorbital; maxillary
reaches $\frac{3}{5}$ to $\frac{2}{3}$ in eye or about opposite
hind pupil edge, expansion $1\frac{7}{8}$ to 2 in
bands of villiform teeth in jaws, on vomer and palatines;
eye, length $1\frac{1}{8}$ to 2 in head; preopercle
ridge and edge finely serrate; preorbital
entire. Gill rakers 6 + 16, lanceolate,
longer than gill filaments or $1\frac{3}{4}$ in
eye.

Scales 23 or 24 in lateral line to
caudal base and 3 or 4 more on latter,
2 above, 6 below. 3 or 4 predorsal,
2 rows on cheeks. Tubercles in lateral
line large, well exposed, each with
small crenulated basal scale.